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Result No.	Query			ID	Description
	Score	Match	Length		
1	598	100.0	110	AAE02447	Human IGF-I isoform
2	572.5	95.7	111	AAE02449	Rabbit IGF-I isoform
3	572.5	95.7	121	AAW23301	Rabbit insulin like
4	560	93.6	195	AAW02077	Sequence of pre-pr
5	494.5	82.7	111	AAE02448	Rat IGF-I isoform
6	468	78.3	105	AAE02450	Human liver-type I
7	468	78.3	137	AAU09067	Human insulin-like
8	468	78.3	153	AAW23803	Insulin-like growth
9	468	78.3	153	AAW59733	Human IGF-1. Homo
10	468	78.3	153	AAW57882	Human IGF-I protein
11	468	78.3	156	AAW23302	Human insulin like

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
XX Claim 4; Page 50-51; 66pp; English.
XX
XX The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human IGF-I isoform MGF. MGF is a muscle
CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
XX SQ Sequence 110 AA;
Query Match 100.0%; Score 598; DB 22; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.4e-54;
Matches 110; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEY 60
DB 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEY 60
QY 61 CAPLPAKSARSVRAORHTDMPKTQKYQPPSTNKNKTSQRRKGSTFEEHK 110
DB 61 CAPLPAKSARSVRAORHTDMPKTQKYQPPSTNKNKTSQRRKGSTFEEHK 110
RESULT 2
AAE02449
ID AAE02449 standard; Protein; 111 AA.
XX
XX AAE02449;
XX
XX 10-AUG-2001 (first entry)
XX
XX Rabbit IGF-I isoform mechano-growth factor (MGF) protein.
KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
XX Oryctolagus cuniculus.
OS
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO) UNIV COLLEGE LONDON.
XX
XX

PI Goldspink G, Johnson I;
XX
XX WPI; 2001-355620/37.
XX N-PSDB; AAD06400.
XX
XX Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
XX Claim 4; Page 54; 66pp; English.
XX
XX The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
CC isoform having extracellular (Ec) domain, hence also referred as
CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
CC of MGF.
XX
XX SQ Sequence 111 AA;
Query Match 95.7%; Score 572.5; DB 22; Length 111;
Best Local Similarity 96.4%; Pred. No. 1.1e-51;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEY 60
DB 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLRLEY 60
QY 61 CAPLPAKSARSVRAORHTDMPKTQKYQPPSTNKNKTSQRRKGSTFEEHK 110
DB 61 CAPLPAKSARSVRAORHTDMPKTQKYQPPSTNKNKTSQRRKGSTFEEHK 110
RESULT 3
AAW23301
ID AAW23301 standard; Protein; 121 AA.
XX
XX AAW23301;
XX
XX 14-APR-1998 (first entry)
XX
XX Rabbit insulin like growth factor 1.
DE
XX Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
KW heart; neuromuscular disease.
KW
XX Oryctolagus cuniculus.
OS
XX
XX WO9733997-A1.
XX
XX 18-SEP-1997.
XX
XX 11-MAR-1997; 97WO-GB00658.
XX
XX 11-MAR-1996; 96GB-0005124.
XX
XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
XX
XX Goldspink G;
PI

XX WPI; 1997-470877/43.
 DR N-PSDB; AAT84893.
 XX
 PT Use of insulin like growth factor I characterised by presence of EC
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases
 XX
 XX Disclosure; Fig 3; 33pp; English.
 XX
 CC A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the EC peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-1 used in the present specification.
 XX
 XX Sequence 121 AA;

Query Match 95.7%; Score 572.5; DB 18; Length 121;
 Best Local Similarity 96.4%; Pred. No. 1.2e-51;
 Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
 QY 1 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 Db 11 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 70
 QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQ-RRKGSFEEHK 110
 Db 71 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKGSFEEHK 121

RESULT 4
 AAP70277
 ID AAP70277 standard; protein; 195 AA.
 XX
 AC AAP70277;
 XX
 OS 05-APR-1991 (first entry)
 XX
 Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).
 XX
 KW Growth promoter; lactation enhancer; cell proliferation.
 XX
 OS Homo sapiens.
 XX
 PN EP229750-A.
 XX
 PD 22-JUL-1987.
 XX
 PF 06-JAN-1987; 87EP-0870001.
 XX
 PR 20-NOV-1986; 86US-0929671.
 PR 07-JAN-1986; 86US-0816662.
 XX
 PA (UNIW) UNIV OF WASHINGTON.
 XX
 PI Krivi GG, Rotwein PS;
 XX
 DR WPI; 1987-200203/29.
 XX
 XX New pre-pro-insulin-like growth factor-1 protein - obtd. by
 PT recombinant DNA procedures for use as growth promoters for
 PT enhancing lactation, for stimulating cell proliferation etc.
 XX
 PS Claim 11; Fig 6; 59pp; English.

XX
 CC A 42 base oligonucleotide corresponding to the DNA sequence encoding
 CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
 CC The radiolabeled 42 mer was then employed to screen for IGF-I
 CC containing DNA sequences in a human liver cDNA library. Insulin-
 CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
 CC library by using lambda_{gt}11 (AAN70435, AAN70436). The human IGF-1
 CC genomic gene was isolated and mapped. It encodes at least two
 CC preproinsulin-like growth factor-1 proteins. An essentially pure
 CC preproinsulin-like growth factor-1 protein comprising the sequence
 CC of amino acids shown in Figure six is claimed (AAP70277).
 XX
 XX Sequence 195 AA;

Query Match 93.6%; Score 560; DB 8; Length 195;
 Best Local Similarity 100.0%; Pred. No. 3.8e-50;
 Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 Db 49 GPEITCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
 QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 103
 Db 109 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 151

RESULT 5
 AAE02448
 ID AAE02448 standard; Protein; 111 AA.
 XX
 AC AAE02448;
 XX
 DT 10-AUG-2001 (first entry)
 XX
 DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
 XX
 KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.
 XX
 OS Rattus sp.
 XX
 PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI; 2001-355620/37.
 DR N-PSDB; AAD06399.
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Claim 4; Page 52; 66pp; English.

XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.

XX Sequence 111 AA;

Query Match 82.7%; Score 494.5; DB 22; Length 111;
 Best Local Similarity 85.6%; Pred. No. 1.2e-43;
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;

1 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

1 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

61 CAPLKPAKSARSVRAQRHDTMPKTKSQ-RRKGSTFEHKK 110

61 CVRCKPTKSARSIRAQRHDTMPKTKSQPLSTHKKRKLQRRKGSTLEEKK 111

RESULT 6

AAE02450

ID AAE02450 standard; Protein; 105 AA.

XX AAE02450;

XX 10-AUG-2001 (first entry)

XX Human liver-type IGF-I isoform (L-IGF-I) protein.

XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.

XX Homo sapiens.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB04354.

XX 15-NOV-1999; 99GB-0026968.

XX (UNLO) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI: 2001-355620/37.

XX N-PSDB; AAD06403.

PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder.

PS Disclosure; Fig 8; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6.

XX Sequence 105 AA;

Query Match 78.3%; Score 468; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 6.4e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

1 GPTLCGAEVLVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

QY 61 CAPLKPAKSARSVRAQRHDTMPKTKQ 86

61 CAPLKPAKSARSVRAQRHDTMPKTKQ 86

RESULT 7

AAU09067

ID AAU09067 standard; Protein; 137 AA.

XX AAU09067;

XX 19-DEC-2001 (first entry)

XX Human insulin-like growth factor, IGFI.

XX Human; long-term memory protein; LTM; insulin-like growth factor;
 KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGFI;
 KW cerebroprotective; drug discovery; therapeutic profiling;
 KW learning disability; memory impairment; brain injury; epilepsy;
 KW mental retardation; senile dementia; Alzheimer's disease.

XX Homo sapiens.

XX WO200174298-A2.

XX 11-OCT-2001.

XX 02-APR-2001; 2001WO-US10661.

XX 31-MAR-2000; 2000US-193614P.

XX (UYBR-) UNIV BROWN RESEARCH FOUND.

XX (HUGH-) HUGHES HOWARD MED INST.

XX Alberini CM, Bear MF;

XX WPI: 2001-626335/72.

XX N-PSDB; AAS14695.

PT Regulating memory consolidation in an animal comprising treating with
 PT an agent that modulates activity of one or more genes from zif268,
 PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF

PS Disclosure; Page 90-91; 100pp; English.

XX

CC The invention relates to modulating long term memory consolidation in an
 CC animal comprising treating with an agent that modulates the activity of
 CC one or more of genes from 21f268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylyl cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.

XX Sequence 137 AA;

Query Match 78.3%; Score 468; DB 22; Length 137;
 Best Local Similarity 100.0%; Pred. No. 8.5e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
 DB 33 GPTLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 92
 QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
 DB 93 CAPLPAKSARSVRAQRHTDMPKTQK 118

RESULT 8

AAR83803

ID AAR83803 standard; protein; 153 AA.

AAR83803;

DT 15-FEB-1996 (first entry)

DE Insulin-like growth factor 1.

XX Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
 KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
 KW burn; wound; brain metastasis.

XX Homo sapiens.

XX Key Location/Qualifiers
 FT Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77
 FT /label= B domain
 FT Domain 78..89
 FT /label= C domain
 FT Domain 90..110
 FT /label= A domain
 FT Domain 111..118
 FT /label= D domain

XX WO9516703-A1.

XX 22-JUN-1995.

PD

XX 15-DEC-1994; 94WO-US14576.
 XX 15-DEC-1993; 93US-0167653.
 PR (UYJE-) UNIV JEFFERSON THOMAS.
 XX Baserga R, Jameson BA;
 PI WPI; 1995-231515/30.

XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
 PT in treatment of diseases associated with undesirable cell
 PT proliferation

XX Disclosure; Page 20-21; 28pp; English.

XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
 CC Processing of the protein results in a 70 amino acid mature protein. The
 CC mature protein is split into 4 domains: the B domain has strong homology
 CC to the B chain of insulin, the A domain similarly has homology to the A
 CC chain of insulin. These domains are separated by a C domain and the D
 CC domain protein is terminated by a D domain at the C-terminus. The D
 CC domain sequence was used to synthesize peptides (AAR83801-2) that
 CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
 CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
 CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
 CC Activated IGF-1R is associated with cellular growth and proliferation.
 CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
 CC IGF-1R and thus may be used in the treatment of disorders characterised
 CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
 CC wounds or brain metastases.

XX Sequence 153 AA;

Query Match 78.3%; Score 468; DB 16; Length 153;
 Best Local Similarity 100.0%; Pred. No. 9.5e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 60
 DB 49 GPTLCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLREMY 108

QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86

DB 109 CAPLPAKSARSVRAQRHTDMPKTQK 134

RESULT 9

AAR69733

ID AAR69733 standard; Protein; 153 AA.

XX AAR69733;

DT 26-OCT-1998 (first entry)

XX Human IGF-1.

XX Human; IGF-1; insulin-like growth factor 1; urinary incontinence;
 KW gene therapy; neurotrophic factor.

XX Homo sapiens.

XX WO9833529-A1.

XX 06-AUG-1998.

XX 04-FEB-1998; 98WO-US02051.

XX 04-FEB-1997; 97US-0036862.

XX (GENE-) GENEMEDICINE INC.

XX

PS	Disclosure; Fig 13; 115pp; English.
XX	
CC	This sequence is the human insulin-like growth factor I (IGF-I). The
CC	DNA can be used in the vector of the invention, for expression of a
CC	nucleic acid sequence in a cell, which comprises: (a) a nucleic acid
CC	cassette containing a sequence encoding IGF-I; (b) a 5' flanking region
CC	including one or more sequences necessary for expression of the nucleic
CC	acid cassette, including a promoter from a skeletal alpha-actin gene;
CC	(c) a linker connecting the 5' flanking region to a nucleic acid, the
CC	linker having a position for inserting the nucleic acid cassette, and
CC	lacking the coding sequence of a gene with which it is naturally
CC	associated; and (d) a 3' flanking region, including a 3' untranslated
CC	region or a 3' non coding region or both, where the 3' flanking region is
CC	3' to the position for inserting the nucleic acid cassette and comprises
CC	a sequence from a growth hormone 3'-UTR. The vector can provide for
CC	efficient IGF-I expression, particularly in gene therapy. It can be used
CC	for the delivery of IGF-I for treating diseases such as muscle atrophy,
CC	diabetes, neuropathy, osteoporosis, and growth disorders. They can be
CC	used for treating peripheral neuropathies resulting from diabetes,
CC	genetic disease such as Type I or Type II diabetes, genetic disease such
CC	as Chacot-Marie-Tooth disease, AIDS, atherogenesis, atherosclerotic,
CC	cardiovascular, cerebrovascular, or peripheral vascular disease,
CC	haemophilia, inflammation and side-effects from anti-cancer and
CC	anti-viral drugs. The vectors can also be used to create transgenic
CC	animals for research or livestock improvement.
XX	
SQ	Sequence 153 AA;
	Query Match 78.3%; Score 468; DB 19; Length 153;
	Best Local Similarity . 100.0%; Pred. No. 9.5e-41;
	Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY	1 GPETLCAELVDALQFCVGRGFEYNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
DB	49 GPETLCAELVDALQFCVGRGFEYNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
QY	61 CAPLKPAKSARSVRAQRHTDMPKTQK 86
DB	109 CAPLKPAKSARSVRAQRHTDMPKTQK 134
RESULT 11	
AAM23302	
ID	AAW23302 standard; Protein; 156 AA.
AC	
AC	AAW23302;
DT	14-APR-1998 (first entry)
XX	
DE	Human insulin like growth factor 1 Ea isoform.
XX	
KW	Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
KX	heart; neuromuscular disease.
OS	Homo sapiens.
XX	
PN	WO9733997-A1.
XX	
PD	18-SEP-1997.
XX	
PF	11-MAR-1997; 97WO-GB00658.
XX	
PR	11-MAR-1996; 96GB-0005124.
XX	
PA	(UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
XX	
PI	Goldspring G;
XX	
DR	WPI; 1997-470877/43.
XX	
N-PSDB	AA784894.
XX	
PT	Use of insulin like growth factor I characterised by presence of Ec
XX	peptide - to treat humans or animals, particularly muscle disorders.

PT heart conditions or neuromuscular diseases
XX Disclosure; Fig 4; 33pp; English.
XX
CC A use of insulin like growth factor I (IGF-I) has been developed, and
CC is characterised by the presence of the Ec peptide, or a functional
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
CC Becker muscular dystrophy, autosomal dystrophies and related progressive
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
CC heart failure or insult, specifically myocarditis or myocardial
CC infarction. It can also be used to promote bone fracture healing and
CC maintenance of bone in old age. The present sequence represents human
CC IGF-1 Ea isoform used in the present specification.

Sequence 156 AA;
Query Match 78.3%; Score 468; DB 18; Length 156;
Best Local Similarity 100.0%; Pred. No. 9.7e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
DB 52 GPETLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 111
QY 61 CAPLKPAPKARSVRAQRHTDMPKTK 86
DB 112 CAPLKPAPKARSVRAQRHTDMPKTK 137

RESULT 12
AAE02452
ID AAE02452 standard; Protein; 105 AA.
XX
AC AAE02452;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rabbit liver-type IGF-I isoform (L-IGF-I) protein.
XX
KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.
XX
OS Oryctolagus cuniculus.
XX
XX WO200136483-A1.
XX
XX 25-MAY-2001.
XX
XX 15-NOV-2000; 2000WO-GB04354.
XX
XX 15-NOV-1999; 99GB-0026968.
XX
XX (UNLO) UNIV COLLEGE LONDON.
XX
XX Goldspink G, Johnson I;
XX
XX WPI; 2001-355620/37.
XX
XX N-PSDB; AAD06405.
XX
XX
XX Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
XX Disclosure; Page 60-61; 66pp; English.
PS

XX The present invention relates to use of mechano-growth factor (MGF),
CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit liver-type IGF-I isoform (L-IGF-I).
CC The L-IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6
CC Note: The present sequence (SEQ ID NO: 14) is stated as being the
CC same as that shown in figure 10 (AAE02456) of the specification. However
CC it differs at few positions.
XX
SQ Sequence 105 AA;
Query Match 77.8%; Score 465; DB 22; Length 105;
Best Local Similarity 98.8%; Pred. No. 1.3e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
DB 1 GPETLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
QY 61 CAPLKPAPKARSVRAQRHTDMPKTK 86
DB 61 CAPLKPAPKARSVRAQRHTDMPKTK 86

RESULT 13
AAP60578
ID AAP60578 standard; Protein; 119 AA.
XX
AC AAP60578;
XX
DT 31-JUL-1991 (first entry)
XX
DE Human prepro-somatomedin-C.
XX
KW Somatomedin-C.
XX
XX
FH Key Location/Qualifiers
FT Protein 1..119
FT /label= prepro-somatomedin-C
FT Protein 15..84
FT /label= mature somatomedin-C
XX
XX WO8600619-A.
XX
XX 30-JAN-1986.
XX
XX 10-JUL-1985; 85WO-US01325.
XX
XX 13-JUL-1984; 84US-0630557.
XX
XX (CHIR-) CHIRON CORP.
XX
XX Bell G, Rall LB, Merryweather JP;
XX
XX WPI; 1986-042104/06.
XX
XX N-PSDB; AAN60490.
XX
XX Pre-pro insulin-like growth factors I and II - obtd. from the
PT human genome by e.g. screening a cDNA library obtd. from human

PT liver cells.
 XX Disclosure; Fig 1; 20pp; English.
 XX The sequence is human prepro-somatostatin-C. DNA probes
 CC prepared against DNA encoding the protein sequence may be used to
 CC detect the presence of the genes in a natural source. The probes
 CC may be used to detect mutations and/or deletions in humans
 CC suffering from growth deficiencies.
 CC See also AAN60489, AAN60491
 XX Sequence 119 AA;
 SQ Query Match 77.1%; Score 461; DB 7; Length 119;
 Best Local Similarity 98.8%; Pred. No. 3.8e-40;
 Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 15 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 74
 QY 61 CAPLPAKSARSVRAQRHTDMPKTK 86
 75 CAPLPAKSARSVRAQRHTDMPKTK 100
 RESULT 14
 AAE02456
 ID AAE02456 standard; Protein; 105 AA.
 XX AC AAE02456;
 XX 10-AUG-2001 (first entry)
 XX Rabbit liver-type IGF-I isoform (L-IGF-I) protein, alternative version.
 DE Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.
 XX OS Oryctolagus cuniculus.
 XX Key Location/Qualifiers
 FH Misc-difference 3 /note= "Encoded by GAG"
 FT Misc-difference 9 /note= "Encoded by GAG"
 WT WO200136483-A1.
 XX 25-MAY-2001.
 XX 15-NOV-2000; 2000WO-GB04354.
 XX 15-NOV-1999; 99GB-0026968.
 XX (UNLO) UNIV COLLEGE LONDON.
 XX Goldspink G, Johnson I;
 XX WPI; 2001-355620/37.
 DR N-PSDB; AAD06405.
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX Disclosure; Fig 10; 66pp; English.

CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is alternative version of rabbit liver-type IGF-I
 CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
 CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence is stated as being the same as SEQ ID NO:14
 CC shown in sequence listing (AAE02452) of the specification. However
 CC it differs at few positions.
 XX Sequence 105 AA;
 SQ Query Match 76.8%; Score 459; DB 22; Length 105;
 Best Local Similarity 96.5%; Pred. No. 5.4e-40;
 Matches 83; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPQTLGAGLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
 QY 61 CAPLPAKSARSVRAQRHTDMPKTK 86
 DB 61 CAPLPAKSARSVRAQRHTDMPKTK 86
 RESULT 15
 AAR40844
 ID AAR40844 standard; Protein; 154 AA.
 XX AC AAR40844;
 XX 03-MAR-1994 (first entry)
 XX Goat Insulin like growth factor 1 (IGF-I) precursor.
 DE Insulin; growth factor; bone; tumour therapy.
 KW Insulin; growth factor; bone; tumour therapy.
 XX OS Capra hircus.
 XX PN JP05199878-A.
 XX PD 10-AUG-1993.
 XX 02-DEC-1991; 91JP-0347820.
 XX 02-DEC-1991; 91JP-0347820.
 XX (KOMA/) KOMANO T.
 DR WPI; 1993-284680/36.
 XX N-PSDB; AAQ47804.
 XX Goat insulin-like growth factor I - useful for prepn. of
 PT insulin-like growth factor I used for growth of bone and tumour
 PT therapy
 PS Claim 2; Figure 1; 6pp; Japanese.
 CC The goat IGF precursor is useful for the preparation of IGF-1 which
 CC is used for growth of bone and the therapy of tumours. The IGF-1
 CC precursor is prepared by inserting the coding sequence into an

CC expression vector, transforming a host cell with the expression
CC vector, culturing the transformed cell and retrieving the IGF-1
CC precursor from the culture supernatant.

XX
SQ Sequence 154 AA;

Query Match 76.8%; Score 459; DB 14; Length 154;
Best Local Similarity 97.7%; Pred No. 8.2e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60
|||
Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 109
|||
QY 61 CAPLPAKSARSVRAQRHTDMPKQK 86
|||
Db 110 CAPLPAKSARSVRAQRHTDMPKQK 135

Search completed: October 25, 2002, 15:57:09
Job time : 27.1807 secs

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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 9.93976 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPTCLGAEVLDAQFVCGD.....STNKNTKSQRKRGSTFEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

rched: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents.AA.*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep.*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep.*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep.*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	572.5	95.7	121	4	US-09-142-583A-4
2	468	78.3	137	1	US-07-953-230A-10
3	468	78.3	152	3	US-08-950-720A-9
4	468	78.3	153	1	US-08-219-878A-1
5	468	78.3	153	5	PCT-US93-04329-1
6	468	78.3	156	4	US-09-142-583A-11
7	461	77.1	119	6	5405942-1
8	457.5	76.5	191	3	US-08-989-251-41
9	457.5	76.5	191	3	US-09-340-250-41
10	457.5	76.5	191	4	US-09-528-108-41
11	412	68.9	78	2	US-08-460-890A-47
12	412	68.9	78	3	US-08-167-641C-47
13	412	68.9	78	4	US-08-460-971A-47
14	412	68.9	78	4	US-08-462-040-47
15	398	66.6	176	1	US-07-953-230A-9
16	385	64.4	70	1	US-07-947-035-1
17	385	64.4	70	1	US-07-776-272-17
18	385	64.4	70	1	US-07-958-903A-17
19	385	64.4	70	1	US-08-462-018-17
20	385	64.4	70	1	US-08-823-245-17
21	385	64.4	70	1	US-08-482-271-1
22	385	64.4	70	3	US-09-080-120A-1
23	385	64.4	70	3	US-08-432-517-1
24	385	64.4	70	4	US-07-963-329A-1
25	385	64.4	70	5	PCT-US92-09443A-1
26	385	64.4	70	5	PCT-US93-11458-1
27	385	64.4	70	5	PCT-US95-08925-1

28	385	64.4	94	1	US-07-989-845-28	Sequence 28, Appl
29	385	64.4	94	1	US-07-989-844-12	Sequence 12, Appl
30	385	64.4	94	1	US-08-161-044-12	Sequence 12, Appl
31	385	64.4	94	1	US-08-240-121-12	Sequence 12, Appl
32	385	64.4	94	1	US-08-451-241-12	Sequence 12, Appl
33	385	64.4	94	5	PCT-US93-11297-12	Sequence 12, Appl
34	385	64.4	94	5	PCT-US93-11298-28	Sequence 28, Appl
35	385	64.4	118	3	US-09-029-267-14	Sequence 14, Appl
36	385	64.4	155	1	US-08-328-961-8	Sequence 8, Appl
37	385	64.4	155	1	US-08-462-397-8	Sequence 8, Appl
38	385	64.4	155	3	US-08-989-251-39	Sequence 39, Appl
39	385	64.4	155	3	US-09-340-250-39	Sequence 39, Appl
40	385	64.4	155	4	US-09-528-108-39	Sequence 39, Appl
41	382	63.9	70	1	US-08-180-572-5	Sequence 5, Appl
42	380	63.5	83	1	US-07-947-035-18	Sequence 18, Appl
43	380	63.5	83	1	US-08-321-585A-12	Sequence 12, Appl
44	377	63.0	70	6	5470828-1	Patent No. 5470828
45	376	62.9	70	1	US-07-654-611-2	Sequence 2, Appl

ALIGNMENTS

RESULT 1
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/09/142.583A
; APPLICATION NUMBER: US/09/142.583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

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Best Local Similarity 96.4%; Pred. No. 1.3e-60;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;
QY 1 GPTCLGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60

Db 11 GPTLCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNNKNTKSO-RRKGSTFEHK 110
Db 71 CAPLKPAKSARSVRAQRHTDMPKTKYQPPSTNNKNTKSO-RRKGSTFEHK 121

RESULT 2

US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10

Query Match 78.3%; Score 468; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 3.7e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
Db 93 CAPLKPAKSARSVRAQRHTDMPKTK 118

RESULT 3

US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
; US-08-950-720A-9

Query Match 78.3%; Score 468; DB 3; Length 152;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTLCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82

QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86

Db 83 CAPLKPAKSARSVRAQRHTDMPKTK 108

RESULT 4

US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/219,878A
FILING DATE: 30-MAR-1994
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match 78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
|||||
DB 49 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 108
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTOK 86
|||||
DB 109 CAPLPAKSARSVRAQRHTDMPKTOK 134
|||||

RESULT 5
PCT-US93-04329-1
Sequence 1, Application PC/TUS9304329
GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn
ADDRESSEE: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1

Query Match 78.3%; Score 468; DB 5; Length 153;
Best Local Similarity 100.0%; Pred. No. 4.2e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
|||||
DB 49 GPETLCGAEVLVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 108
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTOK 86
|||||
DB 109 CAPLPAKSARSVRAQRHTDMPKTOK 134
|||||

RESULT 6
US-09-142-583A-11
Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEORFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match 78.3%; Score 468; DB 4; Length 156;
Best Local Similarity 100.0%; Pred. No. 4.3e-48;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTKQ 172
|||||

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seitzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX:
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; 09-528-108-41

Query Match 76.5%; Score 457.5; DB 4; Length 191;
Best Local Similarity 98.9%; Pred. No. 9.7e-47;
Matches 86; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 86 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 145
|||||

QY 61 CAPLPAKSA-RSVRAQRHTDMPKTKQ 86
|||||

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTKQ 172
|||||

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 68.9%; Score 412; DB 2; Length 78;
Best Local Similarity 97.4%; Pred. No. 8e-42;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEYCAP 63
|||||
Db 2 TLGCAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEYCAP 61
|||||

QY 64 LKPAKSARSVRAQRHTD 80
|||||

Db 62 LRPARSARSVRAQRHTD 78
|||||

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.

APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/078
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-462-040-47

Query Match 68.9%; Score 412; DB 4; Length 78;
Best Local Similarity 97.4%; Pred. No. 8e-42;
Matches 75; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLGAEALVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMYCAP 63
|||||
DB 2 TLGAEALVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMYCAP 61
|||||

QY 64 LKPAKSARSVRAQRHTD 80
|-|-|
DB 62 LRPARSARSVRAQRHTD 78
|-|-|

RESULT 15
US-07-953-230A-9
Sequence 9, Application US/07953230A
Patent No. 5476779
GENERAL INFORMATION:
APPLICANT: CHEN, Thomas T
APPLICANT: SHAMBLOTT, Michael J
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
TITLE OF INVENTION: FROM RAINBOW TROUT
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Burns, Doane, Swecker & Mathis
STREET: George Mason Bldg., Washington & Prince Sts.
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/953,230A
FILING DATE: 30-SEP-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Crane-Feury, Sharon E
REGISTRATION NUMBER: 36,113
REFERENCE/DOCKET NUMBER: 028755-010
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 176 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
US-07-953-230A-9

Query Match 66.6%; Score 398; DB 1; Length 176;
Best Local Similarity 62.8%; Pred. No. 9.9e-40;
Matches 76; Conservative 10; Mismatches 19; Indels 16; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMY 60
|||||
DB 45 GPETLCGAELVDLTQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLRLMY 104
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKY-----QPSTNKNKTSQRKGS 104
|||||

DB 105 CAPVKSAGKAARSVRAQRHTDMPKTKVSTAVQSVDRGTRTAAQHPDKTKPKKEVHQKNS 164
|||||

QY 105 T 105
DB 165 S 165

Search completed: October 25, 2002, 16:00:04
Job time : 10.9398 secs ;

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:02 ; Search time 12.5904 Seconds
(without alignments)
839.517 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLGAELVDALQFVCGD.....STNNTKSQRKRGSTFEEHK 110

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	560	93.6	195	1 IGHU1B	insulin-like growth
2	521.5	87.2	159	2 A26859	insulin-like growth
3	503.5	84.2	133	2 A40912	insulin-like growth
4	494	82.6	181	2 A27804	insulin-like growth
5	468	78.3	137	1 IGP1	insulin-like growth
6	468	78.3	137	2 A36552	insulin-like growth
7	468	78.3	153	1 IGHU1	insulin-like growth
8	464.5	77.7	153	2 S12825	insulin-like growth
9	463	77.4	122	2 PN0622	insulin-like growth
10	463	77.4	153	1 IGB01	insulin-like growth
11	459	76.8	154	2 J22483	insulin-like growth
12	455	76.1	138	2 SC2487	insulin-like growth
13	455	76.1	154	2 A33390	insulin-like growth
14	450	75.3	153	2 B27804	insulin-like growth
15	447	74.7	127	2 A25540	insulin-like growth
16	432	72.2	127	2 B40912	insulin-like growth
17	422	70.6	153	2 A41399	insulin-like growth
18	419.5	70.2	153	2 A36079	insulin-like growth
19	403.5	67.5	161	2 C54270	insulin-like growth
20	401	67.1	155	2 A44012	insulin-like growth
21	401	67.1	176	2 A41396	insulin-like growth
22	401	67.1	188	2 A54270	insulin-like growth
23	401	67.1	188	2 B54270	insulin-like growth
24	399	66.7	149	2 D54270	insulin-like growth
25	398	66.6	176	2 A46244	insulin-like growth
26	298.5	49.9	126	2 S66485	insulin-like growth
27	293	49.0	193	2 A53697	insulin-like growth
28	264.5	44.2	214	2 B46244	insulin-like growth
29	248.5	41.6	187	2 T10897	insulin-like growth

ALIGNMENTS

RESULT 1

IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N:Alternate names: IGF-IB; somatomedin C
N:Contains: insulin-like growth factor IB-E1 amide
C:Species: Homo sapiens (man)
C:Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A01611; A26181; S30540; B48960; A42664
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A01611
A:Molecule type: DNA
A:Residues: 1-195 <R071>
A:Cross-references: GB:M41455; NID:gl83106; PIDN:AAA52537.1; PID:gl83109
R:Rotwein, P.
A:Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986.
A:Reference number: A26181; MUID:86094355
A:Accession: A26181
A:Molecule type: mRNA
A:Residues: 1-195 <R072>
A:Cross-references: GB:M11568; NID:gl83111; PIDN:AAA52539.1; PID:gl83112
R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-1b.
A:Reference number: S30540
A:Accession: S30540
A:Molecule type: mRNA
A:Residues: 1-195 <SAS>
A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumor
A:Reference number: A48960; MUID:93265440
A:Accession: B48960
A:Molecule type: mRNA
A:Residues: 1-195 <SA2>
A:Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence modified after extraction from NCBI backbone
A:Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A:Note: sequence extracted from NCBI backbone (NCBIN:133058)
R:Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitt
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A:Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin
A:Reference number: A42664; MUID:92390398
A:Contents: annotation: IBE-1; amidated carboxyl end
C:Comment: For an alternative splice form, see PIR:IGHU1.
C:Genetics:
A:Gene: GDB:IGF1

A:Cross-references: GDB:120081; OMIM:147440

A:Map position: 12q22-12q24.1

A:Introns: 21/3; 74/1; 134/3

C:Superfamily: insulin

C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma

F:1-21/Domain: signal sequence #status predicted <SIG>

F:22-48/Domain: propeptide #status predicted <PRO>

F:49-118/Product: insulin-like growth factor I #status predicted <MAT>

F:49-77/Domain: insulin chain B-like #status predicted <CHB>

F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>

F:90-110/Domain: insulin chain A-like #status predicted <CHA>

F:111-118/Domain: D peptide #status predicted <CHD>

F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>

F:151-172/Product: insulin-like growth factor IB-EI amide #status predicted <MA2>

F:54-96,66-109,95-100/Disulfide bonds: #status predicted

F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 93.6%; Score 560; DB 1; Length 195;

Best Local Similarity 100.0%; Pred. No. 4.6e-51;

Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

||||| 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 103

||||| 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 151

Db 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 151

RESULT 2

A26859

insulin-like growth factor IB precursor - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999

C:Accession: A26859

R:Shimatsu, A.; Rotwein, P.

Nucleic Acids Res. 15, 7196, 1987

A:Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the 5'

A:Reference number: A26859; MUID:88015572

A:Accession: A26859

A:Molecule type: mRNA

A:Residues: 1-159 <SHI>

A:Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID:g5

A:Superfamily: insulin

C:Keywords: alternative splicing; growth factor

Query Match 87.2%; Score 521.5; DB 2; Length 159;

Best Local Similarity 89.2%; Pred. No. 3.9e-47;

Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

||||| 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 110

||||| 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 159

Db 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 159

RESULT 3

A40912

insulin-like growth factor I precursor form 1 - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999

C:Accession: A40912

R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.

Mol. Endocrinol. 1, 243-248, 1987

A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu

c tissues.

A:Reference number: A40912; MUID:88288198

A:Accession: A40912

A>Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-133 <ROB>

A:Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750

C:Superfamily: insulin

Query Match 84.2%; Score 503.5; DB 2; Length 133;

Best Local Similarity 86.5%; Pred. No. 2.5e-45;

Matches 96; Conservative 2; Mismatches 12; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

||||| 23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82

Db 61 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 110

||||| 83 CVCCKPTKSARSIRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 133

Db 83 CVCCKPTKSARSIRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 133

RESULT 4

A27804

insulin-like growth factor I precursor - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999

C:Accession: A27804; I65202

R:Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,

A:Reference number: A27804; MUID:87222423

A:Accession: A27804

A>Status: preliminary

A:Molecule type: DNA

A:Residues: 1-181 <SHI>

A:Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299

R:Roberts, C.T.

Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987

A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.

A:Reference number: I52218; MUID:87298553

A:Accession: I65202

A>Status: preliminary; translated from GB/EMBL/DBDJ

A:Molecule type: mRNA

A:Residues: 1-27 <RES>

A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760

A:Superfamily: insulin

C:Keywords: alternative splicing

Query Match 82.6%; Score 494; DB 2; Length 181;

Best Local Similarity 84.4%; Pred. No. 3.3e-44;

Matches 92; Conservative 4; Mismatches 13; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

||||| 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

Db 61 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 109

||||| 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 157

Db 109 CAPLKPASARSVRAQRHTDMPKTQYQPPSTNKNKTSQRRKG 157

RESULT 5

IGGP1

insulin-like growth factor I precursor - guinea pig

C:Species: Cavia porcellus (guinea pig)

C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997

C:Accession: S12719

R:Bell, G.I.; Stampien, M.M.; Fong, N.M.; Seino, S.

Nucleic Acids Res. 18, 4275, 1990

A:Title: Sequence of a cDNA encoding guinea pig IGF-I.

A:Reference number: S12719; MUID:90332447

A:Accession: S12719

A:Molecule type: mRNA

A:Residues: 1-137 <BEL>

A:Cross-references: EMBL:X52951

A>Note: it is uncertain whether Met-1 or Met-8 is the initiator

C:Superfamily: insulin
C:Keywords: glycoprotein; growth factor; plasma
F:1-32/Domain: signal sequence #status predicted <SIG>
F:33-102/Product: insulin-like growth factor I #status predicted <MAT>
F:33-61/Domain: insulin chain B-like #status predicted <CHB>
F:62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:74-94/Domain: insulin chain A-like #status predicted <CHA>
F:95-102/Domain: D peptide #status predicted <CHD>
F:103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 78.3%; Score 468; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.3e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTLGAEVLVDALQVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
33 GPTTLGAEVLVDALQVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 92
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLPAKSARSVRAQRHTDMPKTKQ 118
|||||

RESULT 6
A36552
insulin-like growth factor la precursor - human
C:Species: Homo sapiens (man)
C:Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999
C:Accession: A36552
R:Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.
Mol. Endocrinol. 4, 1914-1920, 1990
A:Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal
A:Reference number: A36552; MUID:91187000
A:Accession: A36552
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-137 <TOB>
A:Cross-references: GB:M37484; NID:g184833; PIDN:AAAS2789.1; PID:g184834
C:Superfamily: insulin

Query Match 78.3%; Score 468; DB 2; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.3e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTLGAEVLVDALQVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
33 GPTTLGAEVLVDALQVCGDGRGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 92
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLPAKSARSVRAQRHTDMPKTKQ 118
|||||

RESULT 7
IGHU1
insulin-like growth factor I precursor, splice form A [validated] - human
N:Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A92581; A23614; A93321; J070571; A23622; A92226; A60483; S30519; A48960; 157
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. Alter
A:Reference number: A92581; MUID:86168194
A:Accession: A92581
A:Molecule type: DNA
A:Residues: 1-153 <ROT>
A:Cross-references: GB:M4156; NID:g183107; PIDN:AAAS2538.1; PID:g183110
R:de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bouma
FEBS Lett. 195, 179-184, 1986
A:Title: Organization of the human genes for insulin-like growth factors I and II.
A:Reference number: A91356; MUID:86108962

A:Accession: A23614
A:Molecule type: DNA
A:Residues: 24-153 <DBP>
A:Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB
R:Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H
Nature 306, 609-611, 1983
A:Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A:Reference number: A93321; MUID:84068210
A:Accession: A93321
A:Molecule type: mRNA
A:Residues: 1-153 <JAN>
A:Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A:Note: Met-24 is proposed as a likely initiator
R:Steenbergh, P.H.; Koonen-Remst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A:Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A:Reference number: J070571; MUID:91207342
A:Accession: J070571
A:Molecule type: mRNA
A:Residues: 1-153 <STE>
A:Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008
R:Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.
FEBS Lett. 196, 108-112, 1986
A:Title: Complete characterization of the human IGF-I nucleotide sequence isolated fr
A:Reference number: A23622; MUID:86108910
A:Accession: A23622
A:Molecule type: mRNA
A:Residues: 1-153 <LEB>
A:Cross-references: GB:M27544; NID:g184829; PIDN:AAAS2787.1; PID:g306927
R:Rinderknecht, E.; Humbel, R.E.
J. Biol. Chem. 253, 2769-2776, 1978
A:Title: The amino acid sequence of human insulin-like growth factor I and its struct
A:Reference number: A92226; MUID:78130171
A:Accession: A92226
A:Molecule type: protein
A:Residues: 49-118 <RIN>
R:Karey, K.P.; Marguardt, H.; Sirbasku, D.A.
Blood 74, 1084-1092, 1989
A:Title: Human platelet-derived mitogens. Identification of insulinlike growth factor
A:Reference number: A60483; MUID:89323462
A:Accession: A60483
A:Molecule type: protein
A:Residues: 49-53, 'X', '55-65, 'X', '67-75 <KAR>
A:Experimental source: platelet lysate
R:Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-la.
A:Reference number: S30519
A:Accession: S30519
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-153 <NOR>
A:Cross-references: EMBL:X56773; NID:g32989; PIDN:CAA40092.1; PID:g32990
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumo
A:Reference number: A48960; MUID:93265440
A:Accession: A48960
A:Molecule type: mRNA
A:Residues: 1-123, 'E', '125-132, 'E', '134-153 <SAN>
A:Cross-references: GB:X56773; GB:S61841; NID:g32989
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence extracted from NCBI backbone (NCBI:133056, NCBI:133057)
A:Note: sequence inconsistent with the nucleotide translation
R:Hall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of comple
A:Reference number: I57044; MUID:88065102
A:Accession: I57044
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 24-153 <RAL>
A:Cross-references: GB:M29644; NID:g183119; PIDN:AAAS2543.1; PID:g183120

C;Comment: The insulin-like growth factors, isolated from plasma, are structurally and identical. For an alternative splice form, see PIR:IGHUIB.

C;Genetics:
A;Gene: GDB:IGF1
A;Cross-references: GDB:120081; OMIM:147440
A;Map position: 12q22-12q24.1
A;Introns: 21/3; 74/1; 134/3
C;Superfamily: insulin
C;Keywords: alternative splicing; growth factor; plasma
F;1-21/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-118/Product: insulin-like growth factor I #status experimental <MAT>
F;49-77/Domain: insulin chain B-like #status experimental <CHB>
F;78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F;90-110/Domain: insulin chain A-like #status experimental <CHA>
F;111-118/Domain: D peptide #status experimental <CHD>
F;119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPEO>
F;54-96,66-109,95-100/disulfide bonds: #status predicted

Query Match 78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 1.4e-41;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTK 86
|||||
Db 109 CAPLPAKSARSVRAQRHTDMPKTK 134

RESULT 8

S12825
insulin-like growth factor I precursor - pig
N;Alternate names: somatomedin C
C;Species: Sus scrofa domestica (domestic pig)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C;Accession: S12825; S21488; A34938; A60738
R;Mueiler, M.; Brem, G.

Nucleic Acids Res. 18, 364, 1990
A;Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated region
A;Reference number: S12825; MUID:90221822

A;Accession: S12825
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-153 <MUE>
A;Cross-references: EMBL:X52388
R;Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A;Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-coding region
A;Reference number: S21488

A;Accession: S21488
A;Molecule type: DNA
A;Residues: 1-21 <DIC>

A;Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996
R;Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.
Mol. Endocrinol. 2, 674-681, 1988

A;Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid sequence
A;Reference number: A34938; MUID:89096956

A;Accession: A34938
A;Molecule type: mRNA
A;Residues: 1-21-153 <TAV>

A;Cross-references: GB:M31175
R;Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.
J. Endocrinol. 122, 681-687, 1989

A;Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin-like growth factor I (pIGF-I)
A;Reference number: A60738; MUID:90039035

A;Accession: A60738
A;Molecule type: protein

A;Residues: 49-117, X' <FRA>
C;Genetics:

A;Introns: 21/3; 74/1
C;Superfamily: insulin
C;Keywords: growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-48/Domain: propeptide #status predicted <PRO>
F;49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 77.7%; Score 464.5; DB 2; Length 153;
Best Local Similarity 87.3%; Pred. No. 3.3e-41;
Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTK 95
|||||
Db 109 CAPLPAKSARSVRAQRHTDMPKTK 150

RESULT 9

PN0622

insulin-like growth factor Ia precursor - dog (fragment)

C;Species: Canis lupus familiaris (dog)
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C;Accession: PN0622

R;Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.

Gene 130, 305-306, 1993

A;Title: Sequence of a cDNA encoding dog insulin-like growth factor I.

A;Reference number: PN0622; MUID:93366192

A;Accession: PN0622

A;Molecule type: mRNA

A;Residues: 1-122

A;Comment: This protein is a potent inducer of DNA synthesis in multiple cell types,

C;Genetics:

A;Gene: IGF1a

C;Superfamily: insulin

C;Keywords: growth factor

F;20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 77.4%; Score 463; DB 2; Length 122;

Best Local Similarity 98.8%; Pred. No. 3.9e-41;

Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
|||||
Db 20 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 79
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTK 86
|||||

Db 80 CAPLPAKSARSVRAQRHTDMPKTK 105
|||||

RESULT 10

IGBO1

insulin-like growth factor IA precursor - bovine (fragment)

N;Alternate names: IGF-I; somatomedin C

C;Species: Bos primigenius taurus (cattle)

C;Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999

C;Accession: S12672; A25623; S00465

R;Fotsis, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990

A;Title: Nucleotide sequence of the bovine insulin-like growth factor I (IGF-I) and I

A;Reference number: S12672; MUID:90175014

A;Accession: S12672

A;Molecule type: mRNA

A;Residues: 1-153 <FO>

A;Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455

A;Experimental source: liver

R;Honegger, A.; Humbel, R.E.

J. Biol. Chem. 261, 569-575, 1986

A;Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi

A;Reference number: A92585; MUID:86085881

A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A:Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biological activities
A:Reference number: S00465; MUID:88268620
A:Accession: S00465
A:Molecule type: protein
A:Residues: 49-118 <FRA>
A:Experimental source: colostrum
A:Note: A form of IGF-I lacking the first three residues and possessing enhanced biological activity
C:Superfamily: insulin
C:Keywords: alternative splicing; colostrum; growth factor; plasma
F:1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor IA (active)
F:9-77/Domain: insulin B chain-like #status experimental <MAT>
F:89/Domain: insulin connecting C peptide-like #status experimental <DOB>
F:90-110/Domain: insulin A chain-like #status experimental <DOA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.4%; Score 463; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 4.8e-41;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 49 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTQK 86
|||||

Db 109 CAPLKPAAKSARSVRAQRHTDMPKRAQK 134
|||||

RESULT 11
JC2483
Insulin-like growth factor-I precursor - goat
C:Species: Capra aegagrus hircus (domestic goat)
C:Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C:Accession: JC2483
R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) during fetal development
A:Reference number: JC2483; MUID:95201385
A:Accession: JC2483
A:Molecule type: mRNA
A:Residues: 1-154 <MIK>
A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119
C:Genetics:
A:Introns: 21/3; 75/1; 135/3
C:Superfamily: insulin
F:1-49/Domain: signal sequence #status predicted <SIG>
F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F:120-154/Region: E domain

Query Match 76.8%; Score 459; DB 2; Length 154;
Best Local Similarity 97.7%; Pred. No. 1.3e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 50 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTQK 86
|||||

Db 110 CAPLKPAAKSARSVRAQRHTDMPKRAQK 135
|||||

RESULT 12
S22878

Insulin-like growth factor I precursor, splice form 2 - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999
A:Accession: S22878; S07198
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and regulation
A:Reference number: S22877; MUID:91197361
A:Accession: S22878
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-138 <DIC>
A:Cross-references: EMBL:X51358
R:Francis, G.L.; McNeil, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.
Endocrinology 124, 1173-1183, 1989
A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays
A:Reference number: S07198; MUID:89136887
A:Accession: S07198
A:Molecule type: protein
A:Residues: 34-103 <FRA>
A:Experimental source: fetal plasma
C:Genetics:
A:Introns: 5/3; 59/1; 119/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:7-33/Domain: propeptide #status predicted <PRO>
F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>
F:34-62/Domain: insulin chain B-like #status predicted <DOB>
F:63-74/Domain: insulin connecting peptide-like #status predicted <CHC>
F:75-95/Domain: insulin chain A-like #status predicted <DOA>
F:96-103/Domain: peptide D #status predicted <CHD>
F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
F:39-81,51-94,80-85/Disulfide bonds: #status predicted

Query Match 76.1%; Score 455; DB 2; Length 138;
Best Local Similarity 97.7%; Pred. No. 3e-40;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 34 GPTTCGAEALVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 93
|||||

QY 61 CAPLKPAAKSARSVRAQRHTDMPKTQK 86
|||||

Db 94 CAPLKPAAKSARSVRAQRHTDMPKRAQK 119
|||||

RESULT 13
A33390
Insulin-like growth factor I precursor, splice form 1 - sheep
N:Alternate names: somatomedin C
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999
A:Accession: S22877; A33390; S07965; S07198
R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.
J. Mol. Endocrinol. 6, 17-31, 1991
A:Title: The ovine insulin-like growth factor-I gene: characterization, expression and regulation
A:Reference number: S22877; MUID:91197361
A:Accession: S22877
A:Molecule type: DNA
A:Residues: 1-154 <DIC>
A:Cross-references: EMBL:X51358
R:Wong, E.A.; Ohlson, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.
DNA 8, 649-657, 1989
A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mRNA
A:Reference number: A33390; MUID:90126234
A:Accession: A33390
A:Molecule type: mRNA
A:Residues: 1-43, 'SS', 46-154 <WON>
A:Cross-references: GB:M30653; NID:gl65929; PIDN:AAA80532.1; PID:gl65930
R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.
Biochim. Biophys. Acta 997, 27-35, 1989
A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

A:Reference number: S04972; MUID:89323215

A:Accession: S07965

A:Molecule type: protein

A:Residues: 50-79 <HEY>

R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays.

A:Reference number: S07198; MUID:89136887

A:Accession: S07198

A:Molecule type: protein

A:Residues: 50-119 <FRA>

A:Experimental source: fetal plasma

C:Genetics:

A:Introns: 21/3; 75/1; 135/3

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor; plasma

F:1-21/Domain: signal sequence #status predicted <SIG>

F:22-49/Domain: propeptide #status predicted <PRO>

F:50-119/Product: insulin-like growth factor I (active) #status experimental <MAT>

F:79-90/Domain: insulin chain B-like #status predicted <DOB>

F:91-111/Domain: insulin connecting peptide-like #status predicted <CHC>

F:112-119/Domain: insulin chain A-like #status predicted <DOA>

F:120-154/Domain: peptide D #status predicted <CHD>

F:55-97, 67-110, 96-101/Disulfide bonds: #status predicted <CTP>

Query Match 76.1%; Score 455; DB 2; Length 154;

Best Local Similarity 97.7%; Pred. No. 3.3e-40;

Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLGAELVDALQFVCGDRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

Db 50 GPETLGAELVDALQFVCGDRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109

QY 61 CAPLPAKSAARSVRAQRHTDMPKTKQ 86

Db 110 CAPLKAASARSVRAQRHTDMPKRAQK 135

RESULT 14

B27804

Insulin-like growth factor IA precursor - rat

N:Alternate names: IGF-IA; somatomedin C

C:Species: Rattus norvegicus (Norway rat)

C:Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000

C:Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096

R:Shimatsu, A.; Rotwein, P.

J. Biol. Chem. 262, 7894-7900, 1987

A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, an

A:Reference number: A27804; MUID:87222423

A:Accession: B27804

A:Molecule type: DNA

A:Residues: 1-153 <SHI>

A:Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAA41215.1; PID:g204300

R:Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; Lund

DNA 6, 335-330, 1987

A:Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precursor

A:Reference number: A27849; MUID:88003970

A:Accession: A27849

A:Molecule type: mRNA

A:Residues: 27-153 <CAS>

A:Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752

R:Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.

Agric. Biol. Chem. 54, 1599-1601, 1990

A:Title: A new cDNA clone relating to larger molecular species of rat insulin-like growth

A:Reference number: JH0133; MUID:91103966

A:Accession: JH0133

A:Molecule type: mRNA

A:Residues: 27-153 <KAT>

A:Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781

A:Experimental source: liver

R:Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.

Endocrinology 121, 684-691, 1987

A:Title: Identification, characterization, and regulation of a rat complementary deox

A:Reference number: A28504; MUID:87246437

A:Accession: A28504

A:Molecule type: mRNA

A:Residues: 46-153 <MUR>

A:Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325

R:Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.

Agric. Biol. Chem. 54, 2225-2230, 1990

A:Title: Evidence of introduction by molecular cloning of artificial inverted sequenc

A:Reference number: JN0088; MUID:91136779

A:Accession: JN0088

A:Molecule type: mRNA

A:Residues: 'MSAPP', 22-153 <KA2>

A:Experimental source: liver

A:Note: the authors present evidence that this mRNA may contain an artifactual invers

R:Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa

J. Biol. Chem. 264, 5616-5621, 1989

A:Title: Primary structure of rat insulin-like growth factor-I and its biological act

A:Reference number: A32857; MUID:89174609

A:Accession: A32857

A:Molecule type: protein

A:Residues: 49-118 <TAM>

R:Canalis, E.; McCarthy, T.; Centrella, M.

Endocrinology 122, 22-27, 1988

A:Title: Isolation and characterization of insulin-like growth factor I (somatomedin-

A:Reference number: A61096; MUID:88082445

A:Accession: A61096

A:Molecule type: protein

A:Residues: 49-53, X'55-65 <CAN>

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor

F:49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 75.3%; Score 450; DB 2; Length 153;

Best Local Similarity 95.3%; Pred. No. 1.1e-39;

Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPETLGAELVDALQFVCGDRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLGAELVDALQFVCGDRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLPAKSAARSVRAQRHTDMPKTKQ 86

Db 109 CAPLPAKSAARSVRAQRHTDMPKTKQ 134

RESULT 15

A25540

Insulin-like growth factor IA precursor - mouse

N:Alternate names: IGF-IA; somatomedin C

C:Species: Mus musculus (house mouse)

C:Date: 30-Jun-1988 #sequence_revision 30-Jun-1988 #text_change 16-Jul-1999

C:Accession: A25540; I55295; I59090; B25540

R:Bell, G.I.; Stempien, M.M.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth fa

A:Reference number: A33643; MUID:87040760

A:Accession: A25540

A:Molecule type: mRNA

A:Residues: 1-127 <BEL>

A:Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802

R:Tollersten, S.E.; Lajara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.

J. Biol. Chem. 264, 13810-13817, 1989

A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I

A:Reference number: I55295; MUID:89340472

A:Accession: I55295

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 <RES>

A:Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489

R:Mathews, L.S.; Norstedt, G.; Palmer, R.D.

Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986

A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone

A:Reference number: I59090; MUID:87092249
A:Accession: I59090
A>Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 49-108 <RE2>
A:Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496
C:Genetics:
A:Gene: igf1
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor
F:1-22/Domain: signal sequence #status predicted <SIG>
F:23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F:23-51/Domain: insulin chain B-like #status predicted <DOB>
F:52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F:64-84/Domain: insulin chain A-like #status predicted <DOA>
F:85-92/Domain: D peptide #status predicted <DOD>
F:93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>
Query Match 74.7%; Score 447; DB 2; Length 127;
Best Local Similarity 94.2%; Pred. No. 1.9e-39;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
QY 1 GPTTCGAEIVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTTCGAEIVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CAPLPAKSARSVRAQRHTDMPKTQK 86
Db 83 CAPLPTKAARSIRAQRHTDMPKTQK 108

Search completed: October 25, 2002, 15:59:28
Job time : 13.5904 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.62651 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLCAELVDALQFVCGD.....STNKTKSQRKSGSTFEEHK 110

Scoring table:
Gapop 10.0 , Gapext 0.5

rchd: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	572.5	95.7	143	1 IGF1_RABIT	Q95222 oryctolagus
2	560	93.6	195	1 IGF1_HUMAN	P05019 homo sapien
3	521.5	87.2	133	1 IGF1_MOUSE	P05018 mus musculus
4	494	82.6	181	1 IGF1_RAT	P08024 rattus norv
5	468	78.3	130	1 IGF1_CAVPO	P17647 cavia porce
6	468	78.3	153	1 IGF1_HUMAN	P01343 homo sapien
7	464.5	77.7	153	1 IGF1_PIG	P16545 sus scrofa
8	463	77.4	122	1 IGF1_CANFA	P33712 canis famil
9	463	77.4	154	1 IGF1_BOVIN	P07455 bos taurus
10	459	76.8	154	1 IGF1_CAPHI	P51457 capra hirco
11	455	76.1	154	1 IGF1_SHEEP	P10763 ovis aries
12	450	75.3	153	1 IGF1_RAT	P08025 rattus norv
13	447	74.7	127	1 IGF1_MOUSE	P05017 mus musculus
14	422	70.6	124	1 IGF1_COTIA	P51462 coturnix co
15	422	70.6	153	1 IGF1_CHICK	P18254 gallus gall
16	419.5	70.2	153	1 IGF1_XENLA	P16501 xenopus lae
17	414	69.2	81	1 IGF1_SUNMU	Q28933 suscus muri
18	403	67.4	122	1 IGF1_HORSE	P51458 equus cabal
19	401	67.1	176	1 IGF1_ONCKI	P17085 oncorhynch
20	399.5	66.8	161	1 IGF1_CYPCA	Q90326 cyprinus ca
21	398	66.6	176	1 IGF1_ONCMY	Q02815 oncorhynch
22	393.5	65.8	161	1 IGF1_CYPCA	Q03025 cyprinus ca
23	264.5	44.2	214	1 IGF2_ONCMY	Q02816 oncorhynch
24	241	40.3	179	1 IGF2_SHEEP	P10764 ovis aries
25	235	39.3	128	1 IGF2_CAVPO	Q08279 cavia porce
26	235	39.3	155	1 IGF2_BOVIN	P07456 bos taurus
27	233	39.0	180	1 IGF2_MOUSE	P09535 mus musculus
28	232.5	38.9	129	1 IGF2_MUSVI	P41694 mustela vis
29	231	38.6	180	1 IGF2_HUMAN	P01344 homo sapien
30	229.5	38.4	180	1 IGF2_RAT	P01346 rattus norv
31	229	38.3	181	1 IGF2_HORSE	P51459 equus cabal
32	228	38.1	181	1 IGF2_PIG	P23695 sus scrofa
33	222	37.1	66	1 IGF2_CHICK	P23717 gallus gall

ALIGNMENTS

RESULT 1

ID	IGF1_RABIT	STANDARD:	PRT:	143 AA.
AC	Q95222; O18846;			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Oryctolagus cuniculus (Rabbit).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.			
OX	NCBI_TaxID=9986;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-IA).			
RC	STRAIN=ZIRA;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.			
RN	[2]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-IB).			
RC	STRAIN=ZIRA; TISSUE=Liver;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.			
CC	- !- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.			
CC	- !- SUBCELLULAR LOCATION: Secreted.			
CC	- !- ALTERNATIVE PRODUCTS: 2 ISOFORMS; IGF-IA AND IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.			
CC	- !- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
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CC	EMBL; U75390; AAB48032.1; .			
DR	EMBL; AF022961; AAB80950.1; .			
DR	HSP; P05019; IGF1.			
DR	InterPro; IPR000739; Insulin_IGF_relaxin.			
DR	Pfam; PF00049; Insulin; 1.			
DR	PRINTS; PR00276; INSULINA.			
DR	PRINTS; PR00277; INSULINB.			
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART; SM00078; IIGF; 1.			
DR	PROSITE; PS00262; INSULIN; 1.			
DR	Insulin family; Growth factor; Plasma; Signal; Alternative splicing.			
FT	SIGNAL	1	32	POTENTIAL.
FT	CHAIN	33	102	INSULIN-LIKE GROWTH FACTOR I.
FT	PROPEP	103	143	E PEPTIDE.
FT	DOMAIN	33	61	B.
FT	DOMAIN	62	73	C.
FT	DOMAIN	74	94	A.

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FT DOMAIN 95 102 D.
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YQPPSTNKKMSQRRKSGSTFEEHK -> EVHLKNTSRGSA
FT GKNNTNM (IN ISOFORM IGF-IA).
SQ SEQUENCE 143 AA; 16091 MW; 819AF577800A1B1A CRC64;

Query Match 95.7%; Score 572.5; DB 1; Length 143;
Best Local Similarity 96.4%; Pred. No. 6.9e-54;
Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

QY 1 GPTLCGAELVDALQVCGDGRGYFNKPTGYGSSRRAPQTVGIVDCCFRSCDLRLRLMY 60
Db 33 GPTLCGAELVDALQVCGDGRGYFNKPTGYGSSRRAPQTVGIVDCCFRSCDLRLRLMY 92
QY 61 CAPLKPAKSARSVRAQRHDTMPKQYQPPSTNKNKTSQ-RRKSGSTFEEHK 110
Db 93 CAPLKPAKSARSVRAQRHDTMPKQYQPPSTNKNKMSQRRKSGSTFEEHK 143

RESULT 2
GFPB_HUMAN STANDARD; PRT; 195 AA.
AC P05019;
DT 13-AUG-1987 (Rel. 05, Created)
DE 13-AUG-1987 (Rel. 05, Last sequence update)
DE 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in
RT human liver.";
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuizen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [4]
RP SEQUENCE OF 22-50 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
RN [5]
RP SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
RN [6]
RP 3D-STRUCTURE MODELING.
```

```
RX MEDLINE=83210259; PubMed=6189745;
RA Blundell T.L., Bedarke S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulinlike growth factors";
RL Fed. Proc. 42:2592-2597(1983).
RN [7]
RP STRUCTURE BY NMR.
RX MEDLINE=91242464; PubMed=2036417;
RA Cooke R.M., Harvey T.S., Campbell I.D.;
RT "Solution structure of human insulin-like growth factor I: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
RN [8]
RP STRUCTURE BY NMR.
RX MEDLINE=92316903; PubMed=1319992;
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA Yasuda T., Kobayashi Y.;
RT "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
RN [9]
RP DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC - FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC - SUBCELLULAR LOCATION: Secreted.
CC - ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-IA AND IGF-IB ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC - SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
DR EMBL; M14155; AAA52537.1;
DR EMBL; M12659; AAA52537.1; JOINED.
DR EMBL; M14153; AAA52537.1; JOINED.
DR EMBL; M14154; AAA52537.1; JOINED.
DR EMBL; M11568; AAA52539.1;
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; X03420; CAA27152.1;
DR EMBL; X03421; CAA27153.1;
DR EMBL; X03422; CAA27154.1;
DR PIR; A01611; IGHLB.
DR PIR; A23614; A23614.
DR PIR; A26181; A26181.
DR PIR; S30540; S30540.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; I47440;
DR MIM; 265850;
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD01048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; 3D-structure; Plasma;
KW Alternative splicing; Signal.
FT SIGNAL 1 21 POTENTIAL.
FT PROPEP 22 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
```

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FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 195 E PEPTIDE.
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT STRAND 55 55
FT TURN 56 65
FT HELIX 56 68
FT TURN 66 78
FT STRAND 78 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 93.6%; Score 560; DB 1; Length 195;
Best Local Similarity 100.0%; Pred. No. 2e-52;
Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
Db 49 GPTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLMY 108
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 103
|||||
Db 109 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKG 151
|||||

RESULT 3
IGFB_MOUSE
ID IGFB_MOUSE STANDARD; PRT; 133 AA.
AC P05018;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin)..
IGF1 OR IGF-1.
Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euthera; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
[1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Tong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P05017) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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```

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CC EMBL; X04482; CAA28170.1; -.
DR PIR; B25540; B25540.
DR HSSP; P05019; IGF1.
DR MGD; MGI:96432; Igf1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD01048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT PROPEP 93 133 E PEPTIDE.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B88D62502 CRC64;

Query Match 87.2%; Score 521.5; DB 1; Length 133;
Best Local Similarity 89.2%; Pred. No. 1.6e-48;
Matches 99; Conservative 2; Mismatches 9; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLMY 60
|||||
Db 23 GPTLCGAEVLVALQFVCGDRGFYFNKPTGYGSSSRAPQTGIVDECCFRSCDLRLRLMY 82
|||||

QY 61 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKGSTFEHK 110
|||||
Db 83 CAPLPAKSARSVRAQRHTDMPKTKYQPPSTNKNKTSQRRKGSTFEHK 133
|||||

RESULT 4
IGFB_RAT
ID IGFB_RAT STANDARD; PRT; 181 AA.
AC P08024;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
IGF1 OR IGF-1.
Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euthera; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
sequence, and expression of the rat insulin-like growth factor I
gene."
RL J. Biol. Chem. 262:7894-7900(1987).
[2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88015572; PubMed=3658684;
RA Shimatsu A., Rotwein P.;
RT "Sequence of two rat insulin-like growth factor I mRNAs differing
within the 5' untranslated region."
RL Nucleic Acids Res. 15:7196-7196(1987).
[3]
RP SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
unit: heterogeneous transcripts are generated from two promoters by
use of multiple polyadenylation sites and differential ribonucleic
```


DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN IGF1 OR IBP1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
[1]
RN SEQUENCE FROM N.A.
RP MEDLINE=6168194; PubMed=2937782;
RX Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RA "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RT J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RN SEQUENCE FROM N.A.
RP MEDLINE=84068210; PubMed=6358902;
RX Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RA Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT "Sequence of cDNA encoding human insulin-like growth factor I
RT precursor.";
RL Nature 306:609-611(1983).
RN [3]
RN SEQUENCE FROM N.A.
RP MEDLINE=86108910; PubMed=2935423;
RX le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sandermeier P.;
RA "Complete characterization of the human IGF-I nucleotide sequence
RT isolated from a newly constructed adult liver cDNA library.";
RL FEBS Lett. 196:108-112(1986).
RN [4]
RN SEQUENCE FROM N.A.
RP MEDLINE=86108862; PubMed=3002851;
RX de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [5]
RN SEQUENCE FROM N.A.
RP TISSUE=Liver;
RX MEDLINE=91207342; PubMed=2018498;
RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA Sussenbach J.S.;
RT "Complete nucleotide sequence of the high molecular weight human
RT IGF-I mRNA.";
RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN [6]
RN SEQUENCE FROM N.A.
RP TISSUE=Brain;
RX MEDLINE=92186627; PubMed=1372070;
RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT "Characterization of two cDNAs encoding insulin-like growth factor 1
RT (IGF-1) in the human fetal brain.";
RL Brain Res. Mol. Brain Res. 12:275-277(1992).
RN [7]
RN SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RP MEDLINE=84295593; PubMed=6382022;
RX Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RA "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
RN [8]
RN SEQUENCE OF 49-118;
RP MEDLINE=78130171; PubMed=632300;
RX Rinderknecht E., Humbel R.E.;
RA "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
RN [9]
RN 3D-STRUCTURE MODELING.
RP MEDLINE=83210259; PubMed=6189745;
RX

RA Blundell T.L., Bedarkar S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulin-like growth factors.";
RN Fed. Proc. 42:2592-2597(1983).
RN [10]
RN STRUCTURE BY NMR.
RP MEDLINE=91242464; PubMed=2036417;
RX Cooke R.M., Harvey T.S., Campbell I.D.;
RA "Solution structure of human insulin-like growth factor 1: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
RN [11]
RN STRUCTURE BY NMR.
RP MEDLINE=92316903; PubMed=1319992;
RX Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
RN [12]
RN DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC "FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY."
CC "SUBCELLULAR LOCATION: Secreted."
CC "ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-1A AND IGF-1B ARE
CC PRODUCED BY ALTERNATIVE SPLICING."
CC "SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY."
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; M14156; AAA52538.1; -
CC EMBL; M12659; AAA52538.1; JOINED.
CC EMBL; M14153; AAA52538.1; JOINED.
CC EMBL; M14154; AAA52538.1; JOINED.
CC EMBL; X00173; CAA24998.1; -
CC EMBL; X03563; CAA27250.1; ALT_SEQ.
CC EMBL; M27544; AAA52787.1; -
CC EMBL; X03420; CAA27152.1; -
CC EMBL; X03421; CAA27153.1; -
CC EMBL; X03422; CAA27154.1; -
CC EMBL; X57025; CAA40342.1; -
CC EMBL; X56773; CAA40092.1; -
CC PIR; A01610; IGHL1.
CC PIR; A23614; A23614.
CC PIR; A23622; A23622.
CC PIR; S30519; S30519.
CC PDB; 1GF1; 15-OCT-94.
CC PDB; 2GF1; 15-APR-93.
CC PDB; 3GF1; 15-APR-93.
CC MIM; 147440; -
CC MIM; 265850; -
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IIGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal; POTENTIAL.
FT SIGNAL 1 21

FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT TURN 56 65
FT HELIX 56 68
FT TURN 66 78
FT STRAND 78 81
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 78.3%; Score 468; DB 1; Length 153;
Best Local Similarity 100.0%; Pred. No. 8.e-43;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
DB 109 CAPLPAKSARSVRAQRHTDMPKTKQ 134

RESULT 7
IGFL_PIG
ID IGFL_PIG STANDARD; PRT; 153 AA.
AC P16545;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFL.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NCBI_TaxID=9823;
[1]
SEQUENCE FROM N.A.
RX MEDLINE=90221822; PubMed=23261619;
RA Mueller M., Brem G.;
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
untranslated region, exons 1 and 2 and mRNA.";
RL Nucleic Acids Res. 18:364-364(1990).
[2]
SEQUENCE OF 20-153 FROM N.A.
RX MEDLINE=89096956; PubMed=3211153;
RA Tavakkol A., Simmen F.A., Simmen R.C.M.;
RT "Porcine insulin-like growth factor-I (pigf-I): complementary
deoxyribonucleic acid cloning and uterine expression of messenger
ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL Mol. Endocrinol. 2:674-681(1988).
[3]
SEQUENCE OF 1-21 FROM N.A.
RC STRAIN-WHITE LANDRACE; TISSUE=Liver;
RX MEDLINE=94128209; PubMed=8297476;
RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA Gilmour R.S.;

RT "The porcine insulin-like growth factor-I gene: characterization and
expression of alternate transcription sites.";
RL J. Mol. Endocrinol. 11:201-211(1993).
CC 1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC 1- SUBCELLULAR LOCATION: Secreted.
CC 1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; X17492; CAA35527.1; -
DR EMBL; X52388; CAA36617.1; -
DR EMBL; X52077; CAA36296.1; -
DR EMBL; M31175; AAA31043.1; ALT_INIT.
DR EMBL; X17638; CAA35632.1; -
DR PIR; A34938; A34938.
DR PIR; S12825; S12825.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 49 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match 77.7%; Score 464.5; DB 1; Length 153;
Best Local Similarity 87.3%; Pred. No. 2.1e-42;
Matches 89; Conservative 1; Mismatches 5; Indels 7; Gaps 1;

QY 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 60
DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPOTGIVDECCFRSCDLRLLEY 108
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ-----YQPPSTNKN 95
DB 109 CAPLPAKSARSVRAQRHTDMPKTKQAEVHLKNTSRGSSGNKN 150
[1]
[2]
[3]
RESULT 8
IGFL_CANFA
ID IGFL_CANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGFI OR IGFI.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
NCBI_TaxID=9615;

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RN  SEQUENCE FROM N.A.
RX  MEDLINE=93366192; PubMed=8359700;
RA  Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT  "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL  Gene 130:305-306(1993).
CC  -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC  ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC  MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; L08254; ; NOT_ANNOTATED_CDS.
DR  PIR; P06222; P06222.
DR  HSP; P05019; IGF1.
DR  InterPro; IPR000739; Insulin_IGF_relaxin.
DR  Pfam; PF00049; Insulin; 1.
DR  ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR  SMART; SM00078; IGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Signal.
FT  NON_TER 1
FT  SIGNAL <1 19 BY SIMILARITY.
FT  CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT  DOMAIN 20 48 B.
FT  DOMAIN 49 60 C.
FT  DOMAIN 61 81 A.
FT  DOMAIN 82 89 D.
FT  PROPEP 90 122 E PEPTIDE.
FT  DISULFID 25 67 BY SIMILARITY.
FT  DISULFID 37 80 BY SIMILARITY.
FT  DISULFID 66 71 BY SIMILARITY.
SQ  SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 122;
Best Local Similarity 98.8%; Pred. No. 2.3e-42;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 1 GPETLGGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 60
20 GPETLGGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 79

QY 61 CAPLPAKSARSVRAQRHTDMPKQK 86
80 CAPLPAKSARSVRAQRHTDMPKQK 105

RESULT 9
IGF1_BOVIN STANDARD; PRT; 154 AA.
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN  SEQUENCE OF 2-154 FROM N.A.
RX  MEDLINE=90175014; PubMed=2308858;
RA  Fotsis T., Murphy C., Gannon F.;

```

```

RT  "Nucleotide sequence of the bovine insulin-like growth factor 1
RT  (IGF-1) and its IGF-1A precursor.";
RL  Nucleic Acids Res. 18:676-676(1990).
RN  SEQUENCE OF 50-119 FROM N.A.
RX  MEDLINE=95172127; PubMed=7867698;
RA  Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT  "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT  oviduct during the oestrous cycle.";
RL  Exp. Clin. Endocrinol. 102:364-369(1994).
RN  SEQUENCE OF 50-119
RX  MEDLINE=86085881; PubMed=3941093;
RA  Honegger A., Humbel R.E.;
RT  "Insulin-like growth factors I and II in fetal and adult bovine
RT  serum. Purification, primary structures, and immunological
RT  cross-reactivities.";
RL  J. Biol. Chem. 261:569-575(1986).
RN  SEQUENCE OF 50-119
RX  MEDLINE=86268820; PubMed=3390164;
RA  Francis G.L., Upton F.M., Ballard F.J., McNeill K.A., Wallace J.C.;
RT  "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT  and biological activities compared with those of a potent truncated
RT  form.";
RL  Biochem. J. 251:95-103(1988).
CC  -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC  ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC  MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC  -!- SUBCELLULAR LOCATION: Secreted.
CC  -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC  or send an email to license@isb-sib.ch).
CC  -----
DR  EMBL; X15726; CAA33746.1;
DR  EMBL; S76122; AAD14209.1;
DR  PIR; A25623; IGB01.
DR  PIR; S00465; S00465.
DR  PIR; S12672; S12672.
DR  HSP; P05019; IGF1.
DR  InterPro; IPR000739; Insulin_IGF_relaxin.
DR  Pfam; PF00049; Insulin; 1.
DR  PRINTS; PR00276; INSULINA.
DR  PRINTS; PR00277; INSULINB.
DR  ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR  SMART; SM00078; IGF; 1.
DR  PROSITE; PS00262; INSULIN; 1.
KW  Insulin family; Growth factor; Plasma; Signal.
FT  SIGNAL 1 49
FT  PROPEP 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT  CHAIN 50 78 B.
FT  DOMAIN 50 78 C.
FT  DOMAIN 79 90 A.
FT  DOMAIN 91 111 D.
FT  DOMAIN 112 119 E PEPTIDE.
FT  PROPEP 120 154 BY SIMILARITY.
FT  DISULFID 55 97 BY SIMILARITY.
FT  DISULFID 67 110 BY SIMILARITY.
FT  DISULFID 96 101 BY SIMILARITY.
SQ  SEQUENCE 154 AA; 17066 MW; 6420186AF3140999 CRC64;

Query Match 77.4%; Score 463; DB 1; Length 154;
Best Local Similarity 98.8%; Pred. No. 3e-42;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLGGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 60
|||||

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Db 50 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 109
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
Db 110 CAPLKPAKSARSVRAQRHTDMPKTK 135
RESULT 10
IGFL_CAPHI STANDARD; PRT; 154 AA.
AC P51457;
DT 01-OCT-1996 (Rel. 34, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFL.
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
STRAIN-SHIBA; TISSUE=Liver;
RX MEDLINE=95290780; PubMed=7772848;
RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA Utsumi K.;
RT "Tissue- and development-specific expression of goat insulin-like
RT growth factor-I (IGF-I) mRNAs".
RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
CC LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
CC MUSCLE.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC
CC EMBL; D26116; BAA05112.1; ALT_TERM.
CC EMBL; D26117; BAA05113.1; -.
CC EMBL; D26118; BAA05114.1; -.
CC EMBL; D26119; BAA05115.1; -.
CC EMBL; D11378; BAA01976.1; -.
CC HSP: P05019; IGFI.
CC InterPro: IPR000739; Insulin_IGF_relaxin.
CC Pfam: PF00049; Insulin; 1.
CC PRINTS: PR00276; INSULINA.
CC PRINTS: PR00277; INSULINB.
CC ProDom: PD001048; Insulin_IGF_relaxin; 1.
CC SMART: SM00078; ILGF; 1.
CC PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 7 49 BY SIMILARITY.
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 79 90 C.
FT DOMAIN 91 111 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
SQ SEQUENCE 154 AA; 17082 MW; 07238B6AF3068422 CRC64;

Query Match 76.8%; Score 459; DB 1; Length 154;
Best Local Similarity 97.7%; Pred. No. 7.9e-42;
Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 50 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 109
QY 61 CAPLKPAKSARSVRAQRHTDMPKTK 86
Db 110 CAPLKPAKSARSVRAQRHTDMPKTK 135
RESULT 11
IGFL_SHEEP STANDARD; PRT; 154 AA.
AC P10763;
DT 01-JUL-1989 (Rel. 11, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFL.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=90126234; PubMed=2575490;
RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT in the mRNA population".
RL DNA 8:649-657(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=91197361; PubMed=2015053;
RA Dickson M.C., Saunders J.C., Gilmour R.S.;
RT "The ovine insulin-like growth factor-I gene: characterization,
RT expression and identification of a putative promoter".
RL J. Mol. Endocrinol. 6:17-31(1991).
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=93221682; PubMed=8466647;
RA Ohlsen S.M., Dean D.M., Wong E.A.;
RT "Characterization of multiple transcription initiation sites of the
RT ovine insulin-like growth factor-I gene and expression profiles of
RT three alternatively spliced transcripts".
RL DNA Cell Biol. 12:243-251(1993).
RN [4]
RP SEQUENCE OF 55-135 FROM N.A.
RC STRAIN=COOPWORTH; TISSUE=Liver;
RX MEDLINE=93250051; PubMed=8485157;
RA Denner J., Hill D.F., Petersen G.B.;
RT "Characterization of two sheep insulin-like growth factor II cDNAs
RT with different 5'-untranslated regions".
RL Biochim. Biophys. Acta 1173:79-80(1993).
RN [5]
RP SEQUENCE OF 50-119.
RX MEDLINE=89136887; PubMed=2537174;
RA Francis G.L., McNeill K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT "Sheep insulin-like growth factors I and II: sequences, activities
RT and assays".
RL Endocrinology 124:1173-1183(1989).
RN [6]
RP SEQUENCE OF 50-79.
RX MEDLINE=893323215; PubMed=2752053;
RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT "Simultaneous isolation of insulin-like growth factors I and II from

RT adult sheep serum.;"

RL Biochim. Biophys. Acta 997:27-35(1989).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE

CC PRODUCED BY ALTERNATIVE SPLICING.

CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

CC -----

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CC or send an email to license@sib-sib.ch).

CC -----

EMBL; M30653; AAA80532.1; -

EMBL; M30653; AAA80533.1; -

EMBL; M31734; AAA80535.1; -

EMBL; M31734; AAA80534.1; -

EMBL; M31736; AAA31545.1; -

EMBL; M31735; AAA31546.1; -

EMBL; M31735; AAA31547.1; -

EMBL; M31735; AAA31547.1; -

EMBL; X69472; CAA49230.1; -

EMBL; X69473; CAA49230.1; JOINED.

EMBL; X69474; CAA49230.1; JOINED.

EMBL; X69475; CAA49230.1; JOINED.

EMBL; X69472; CAA49231.1; -

EMBL; X69473; CAA49231.1; JOINED.

EMBL; X69474; CAA49231.1; JOINED.

EMBL; X69475; CAA49231.1; JOINED.

EMBL; X69473; CAA49232.1; -

EMBL; X69474; CAA49232.1; JOINED.

EMBL; X69475; CAA49232.1; JOINED.

EMBL; M89787; AAA31544.1; -

PIR; A33390; A33390.

PIR; B33390; B33390.

PIR; S07198; S07198.

PIR; S07965; S07965.

HSP; P05019; IGF1.

InterPro; IPR000739; Insulin_IGF_relaxin.

PRINTS; PR00049; Insulin; 1.

PRINTS; PR00276; INSULINA.

PRINTS; PR00277; INSULIN.

ProDom; PD001048; Insulin_IGF_relaxin; 1.

SMART; SM00078; IIGF; 1.

PROSITE; PS00262; INSULIN; 1.

Insulin family; Growth factor; Plasma; Signal; Alternative splicing.

FT SIGNAL 1 ?

FT PROPEP ? 49

FT CHAIN 50 119

FT DOMAIN 50 78

FT DOMAIN 79 90

FT DOMAIN 91 111

FT DOMAIN 112 119

FT PROPEP 120 154

FT DISULFID 55 97

FT DISULFID 67 110

FT DISULFID 96 101

FT VARSPIC 1 21

FT VARSPIC 1 34

FT CONFLICT 57 57

FT CONFLICT 57 57

FT SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 76.1%; Score 455; DB 1; Length 154;

Best Local similarity 97.7%; Pred. No. 2.le-41;

Matches 84; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLLEY 60

|||||

Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLLEY 109

QY 61 CAPLKAAPSARSVRAQRHTDMPKTK 86

Db 110 CAPLKAAPSARSVRAQRHTDMPKTK 135

|||||

RESULT 12

IGFA_RAT

ID IGFA_RAT STANDARD; PRT; 153 AA.

AC P08025;

DT 01-AUG-1988 (Rel. 08, Created)

DT 01-FEB-1991 (Rel. 17, Last sequence update)

DT 30-MAY-2000 (Rel. 39, Last annotation update)

DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).

GN IGF1 OR IGF-1.

OS Rattus norvegicus (Rat).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

OX NCBI_Taxid=10116;

RN [1]

RP SEQUENCE FROM N.A.

RX MEDLINE=87222423; PubMed=3034909;

RA Shimatsu A., Rotwein P.;

RT "Mosaic evolution of the insulin-like growth factors. Organization,

RT sequence, and expression of the rat insulin-like growth factor I

RT gene.";

RT J. Biol. Chem. 262:7894-7900(1987).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE-Festis;

RX MEDLINE=88003970; PubMed=3652906;

RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,

RA Hoyt E.C., Lund P.K.;

RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor

RT I precursor.";

RT DNA 6:325-330(1987).

RN [3]

RP SEQUENCE FROM N.A.

RX MEDLINE=91103966; PubMed=1368571;

RA Kato H., Okoshi A., Miura Y., Noguchi T.;

RT "A new cDNA clone relating to larger molecular species of rat

RT insulin-like growth factor-I mRNA.";

RL Agric. Biol. Chem. 54:1599-1601(1990).

RN [4]

RP SEQUENCE FROM N.A.

RX MEDLINE=89127259; PubMed=3221878;

RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;

RT "Structure of the rat insulin-like growth factor II transcriptional

RT unit: heterogeneous transcripts are generated from two promoters by

RT use of multiple polyadenylation sites and differential ribonucleic

RT acid splicing.";

RL Mol. Endocrinol. 2:1115-1126(1988).

RN [5]

RP SEQUENCE OF 46-153 FROM N.A.

RX MEDLINE=87246437; PubMed=3595538;

RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;

RT "Identification, characterization, and regulation of a rat

RT complementary deoxyribonucleic acid which encodes insulin-like growth

RT factor-I.";

RL Endocrinology 121:684-691(1987).

RN [6]

RP SEQUENCE OF 49-118.

RX MEDLINE=89174609; PubMed=2538424;

RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,

RA Nakamura S., Niwa M., Zapf J.;

RT "Primary structure of rat insulin-like growth factor-I and its

RT biological activities.";

RL J. Biol. Chem. 264:5616-5621(1989).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,

CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.

CC -!- SUBCELLULAR LOCATION: Secreted.

CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE) AND
CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; X06043; CAA29436.1; -
CC EMBL; M15651; AAA41215.1; -
CC EMBL; M15647; AAA41215.1; JOINED.
CC EMBL; M15648; AAA41215.1; JOINED.
CC EMBL; M15649; AAA41215.1; JOINED.
CC EMBL; M17714; AAA41227.1; -
CC EMBL; M17335; AAA41386.1; ALT_INIT.
CC EMBL; M15481; AAA41387.1; ALT_INIT.
CC PIR; A27849; A27849.
CC PIR; JH0133; JH0133.
CC PIR; B27804; B27804.
CC PIR; A32857; A32857.
CC PIR; A28504; A28504.
CC HSSP; P05019; IGFL.
CC InterPro; IPRO00739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULIN.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
CC SIGNAL 1 ? 48
FT PROPEP 49 118 INSULIN-LIKE GROWTH FACTOR IA.
FT CHAIN 49 118 B.
FT DOMAIN 49 77 C.
FT DOMAIN 78 89 A.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF 4).
SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;

Query Match 75.3%; Score 450; DB 1; Length 153;
Best Local Similarity 95.3%; Pred. No. 7.1e-41;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVFCGRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 49 GPTLCGAEVLDAQVFCGRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
QY 61 CAPLKPAAKSARSVRAQRHTDMPKTK 86
DB 109 CAPLKPAAKSARSVRAQRHTDMPKTK 134

RESULT 13
IGFA_MOUSE
ID IGFA_MOUSE STANDARD; PRT; 127 AA.
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGFL OR IGF-1
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors";
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE)
CC AND ISOFORM IGF-IB (AC P05018); ARE PRODUCED BY ALTERNATIVE
CC SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; X04480; CAA28168.1; -
CC PIR; A25540; A25540.
CC HSSP; P05019; IGFL.
CC MGD; MGI:96432; Igfl.
CC InterPro; IPRO00739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULIN.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
CC SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT PROPEP 93 127 E PEPTIDE.
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 59 74 BY SIMILARITY.
SQ SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;

Query Match 74.7%; Score 447; DB 1; Length 127;
Best Local Similarity 94.2%; Pred. No. 1.2e-40;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVFCGRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 23 GPTLCGAEVLDAQVFCGRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 82
QY 61 CAPLKPAAKSARSVRAQRHTDMPKTK 86
DB 83 CAPLKPAAKSARSVRAQRHTDMPKTK 108

RESULT 14
IGFL_COTJA
ID IGFL_COTJA STANDARD; PRT; 124 AA.
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN (Fragment).
DE IGFL.

[illegible]

Qy 61 CAPLPAKSARSVRAQRHTDMPKTOK 86
| | | : | | | | | | | | | | | | | |
Db 109 CAPIKPPKSARSVRAQRHTDMPKAOK 134

Search completed: October 25, 2002, 15:57:34
Job time : 6.62651 secs

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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:53:12 ; Search time 20.5422 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-2
Perfect score: 598
Sequence: 1 GPETLGAELVDALQFVCGD.....STNKNKTSQRKKGSTFEEHK 110

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 562222 seqs, 172994929 residues
Total number of hits satisfying chosen parameters: 562222
Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SPTREMBL.19.*
1: sp_archaea.*
2: sp_bacteria.*
3: sp_fungi.*
4: sp_human.*
5: sp_invertebrate.*
6: sp_mammal.*
7: sp_mhc.*
8: sp_organelle.*
9: sp_phage.*
10: sp_plant.*
11: sp_rodent.*
12: sp_virus.*
13: sp_vertebrate.*
14: sp_undefined.*
15: sp_virus.*
16: sp_bacteriap.*
17: sp_archaeap.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	590	98.7	139	Q13429	Q13429 homo sapien
2	468	78.3	130	Q9NP10	Q9np10 homo sapien
3	468	78.3	137	Q14620	Q14620 homo sapien
4	463	77.4	133	Q9N1C1	Q9n1c1 bos taurus
5	458	76.6	139	P79167	P79167 equus caball
6	450	75.3	127	P97899	P97899 rattus sp.
7	422	70.6	153	Q93380	Q93380 melesgris g
8	403.5	67.5	161	Q91230	Q91230 oncorhynch
9	401	67.1	145	Q91475	Q91475 salmo salar
10	401	67.1	155	Q91162	Q91162 oncorhynch
11	401	67.1	188	Q91965	Q91965 oncorhynch
12	401	67.1	188	P81268	P81268 oncorhynch
13	399.5	66.8	178	Q91B10	Q91b10 cyprinus ca
14	399	66.7	116	Q91161	Q91161 oncorhynch
15	399	66.7	149	Q91231	Q91231 oncorhynch
16	392	65.6	117	Q91476	Q91476 salmo salar

17	390.5	65.3	161	13	Q90VV9	Q90vv9 brachydanio
18	382.5	64.0	117	13	Q91914	Q91914 ctenopharyn
19	381	63.7	161	13	Q9PWK2	Q9pwk2 carassius a
20	379.5	63.5	161	13	Q98SR6	Q98sr6 megalobrama
21	378	63.2	161	13	Q9YI82	Q9yi82 carassius a
22	377	63.0	185	13	O57436	O57436 paralichthy
23	377	63.0	186	13	O93527	O93527 paralichthy
24	376.5	63.0	159	13	O93607	O93607 paralichthy
25	376	62.9	182	13	P79824	P79824 oreochromis
26	376	62.9	182	13	O73720	O73720 oreochromis
27	376	62.9	182	13	O42289	O42289 oreochromis
28	370	61.9	186	13	O9PSX5	O9psx5 paralichthy
29	365.5	59.4	185	13	O9Y157	O9y157 acanthopagr
30	355	59.4	66	6	Q9N1S6	Q9n1s6 capreolus c
31	351	58.7	184	13	O42336	O42336 myoxocephal
32	333.5	55.8	69	6	O02807	O02807 bubalus bub
33	302	50.5	57	6	O28236	O28236 cervus elap
34	298.5	49.9	126	13	Q91442	Q91442 squallus aca
35	278	46.5	62	13	Q91AA0	Q91aa0 carassius a
36	264	44.1	215	13	O73721	O73721 tilapia sp.
37	261	43.6	215	13	O42429	O42429 lates calca
38	256.5	42.9	207	13	Q90XD0	Q90xd0 cyprinus ca
39	255.5	42.7	187	13	O57687	O57687 taenopygia
40	250.5	41.9	217	13	Q90WM4	Q90wm4 xenopus lae
41	248.5	41.6	187	13	P79890	P79890 gallus gall
42	235.5	39.4	154	11	O63265	O63265 rattus norv
43	232.5	38.9	197	13	Q9PUD0	Q9pud0 brachydanio
44	230	38.5	149	6	Q9MYX4	Q9myx4 bos indicus
45	227	38.0	106	6	Q9MYZ6	Q9myz6 trichosurus

ALIGNMENTS

RESULT 1

Q13429 PRELIMINARY; PRT; 139 AA.
AC Q13429;
DT 01-NOV-1996 (Tremblrel. 01, Created)
DT 01-NOV-1996 (Tremblrel. 01, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 01, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).
GN IGF-I.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-I
transcript with hepatic tissue expression that diverts away from the
mitogenic IGF peptide";
RT Mitogenic IGF peptide.
RL Endocrinology 136:1939-1944(1995).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U40870; AAA96152.1; -.
DR HSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR Probom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 98.7%; Score 590; DB 4; Length 139;
Best Local Similarity 99.1%; Pred. No. 1.9e-63;
Matches 109; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 30 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 89
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQYOPSTNKNKTSQRKSGSTEEHK 110
|||||
Db 90 CAPLPAKSARSVRAQRHTDMPKTKQYOPSTNKNKTSQRKSGSTEEK 139
|||||

RESULT 2
Q9NP10
ID Q9NP10 PRELIMINARY; PRT; 130 AA.
AC Q9NP10;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE IGF1 PROTEIN PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
X [1]
RP SEQUENCE FROM N.A.
MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: isolation of
complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248(1987).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW SIGNAL.
FT CHAIN 1 25 POTENTIAL.
FT CHAIN 26 95 POTENTIAL.
FT CHAIN 130 AA; 14406 MW; 970FBAECFA0352D CRC64;
SQ SEQUENCE 130 AA; 14406 MW; 970FBAECFA0352D CRC64;

Query Match 78.3%; Score 468; DB 4; Length 130;
Best Local Similarity 100.0%; Pred. No. 9.3e-49;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 26 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 85
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 86 CAPLPAKSARSVRAQRHTDMPKTKQ 111
|||||

RESULT 3
Q14620
ID Q14620 PRELIMINARY; PRT; 137 AA.
AC Q14620;
DT 01-NOV-1996 (Tremblrel. 01, Created)
DT 01-NOV-1996 (Tremblrel. 01, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
X [1]
RP SEQUENCE FROM N.A.
MEDLINE=91187000; PubMed=2082190;
RA Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
in normal and tumor cells.";
RL Endocrinol. 4:1914-1920(1990).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AAA52789.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW SIGNAL.
FT SIGNAL 1 32 POTENTIAL.
FT CHAIN 33 137 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 137 AA; 15177 MW; BFCOD11E32AB75D CRC64;
SQ SEQUENCE 137 AA; 15177 MW; BFCOD11E32AB75D CRC64;

Query Match 78.3%; Score 468; DB 4; Length 137;
Best Local Similarity 100.0%; Pred. No. 9.9e-49;
Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 60
|||||
Db 33 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLEY 92
|||||
QY 61 CAPLPAKSARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLPAKSARSVRAQRHTDMPKTKQ 118
|||||

RESULT 4
Q9NIC1
ID Q9NIC1 PRELIMINARY; PRT; 133 AA.
AC Q9NIC1;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I (FRAGMENT).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OC NCBI_TaxID=9913;
X [1]
RP SEQUENCE FROM N.A.
MEDLINE=91187000; PubMed=2082190;
RA Lien S., Karlisen A., Klemetsdal G., Vage D.I., Olsaker I.,
Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
RT "A primary screen of the bovine genome for quantitative trait loci
affecting twinning rate.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF210387; AAF72409.1; JOINED.
DR EMBL; AF210385; AAF72409.1; JOINED.
DR EMBL; AF210386; AAF72409.1; JOINED.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER 1
FT NON_TER 1
SQ SEQUENCE 133 AA; 14674 MW; A6991DBC875C103B CRC64;

Query Match 77.4%; Score 463; DB 6; Length 133;
Best Local Similarity 98.8%; Pred. No. 3.8e-48;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 29 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 88
 QY 61 CAPLPAKSARSVRAQRHDTMPKTK 86
 DB 89 CAPLPAKSARSVRAQRHDTMPKTK 114

RESULT 5
 P79167
 ID P79167 PRELIMINARY; PRT; 139 AA.
 AC P79167;
 DT 01-MAY-1997 (TReMBLrel. 03, Created)
 DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
 DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
 INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C) (FRAGMENTS).
 IGF1.
 OS Equus caballus (Horse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE OF 1-122 FROM N.A.
 RC TISSUE=LIVER;
 RX MEDLINE=97013467; PubMed=8860303;
 RA Otte K., Rozell B., Gessbo A., Engstrom W.;
 RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA and its expression in fetal and adult tissues.";
 RL Gen. Comp. Endocrinol. 102:11-15(1996).
 RN [2]
 RP SEQUENCE OF 123-139 FROM N.A.
 RA Nixon A.J., Toland B.D., Sandell L.J.;
 RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: SECRETED.
 CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; U28070; AAA68952.1; -;
 HSSP; P01343; IGF1.
 InterPro; IPR000739; Insulin_IGF_relaxin.
 Pfam; PF00049; Insulin; 1.
 PRINTS; PR00276; INSULINA.
 DR PRINTS; PR00277; INSULINA.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; UNKNOWN.1.
 KW Insulin family; Growth factor; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48 BY SIMILARITY.
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 >139 E PEPTIDE.
 FT NON_CONS 122 123
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT NON_TER 139 139
 SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match 76.6%; Score 458; DB 6; Length 139;
 Best Local Similarity 85.3%; Pred. No. 1.6e-47;
 Matches 87; Conservative 1; Mismatches 2; Indels 12; Gaps 1;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 49 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
 QY 61 CAPLPAKSARSVRAQRHDTMPKTKYQPPSTNKNTKSKRRK 102
 DB 109 CAPLPAKSARSVRAQRHDTMPKTKYQPPSTNKNTKSKRRK 138

RESULT 6
 P97899
 ID P97899 PRELIMINARY; PRT; 127 AA.
 AC P97899;
 DT 01-MAY-1997 (TReMBLrel. 03, Created)
 DT 01-MAY-1997 (TReMBLrel. 03, Last sequence update)
 DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
 INSULIN-LIKE GROWTH FACTOR I.
 OS Rattus sp.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10118;
 RN [1]
 RP PARTIAL SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shimatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors.";
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat insulin-like growth factor-I mRNA.";
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; D00698; BAA00604.1; -;
 HSSP; P01343; IGF1.
 InterPro; IPR000739; Insulin_IGF_relaxin.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00276; INSULINA.
 DR PRINTS; PR00277; INSULINA.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT CHAIN 23 92 POTENTIAL.
 SQ SEQUENCE 127 AA; 14106 MW; 104E126BFCFA5CB7 CRC64;

Query Match 75.3%; Score 450; DB 11; Length 127;
 Best Local Similarity 95.3%; Pred. No. 1.3e-46;
 Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 23 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82

QY 61 CAPLPAKSARSVRAQRHDTMPKTK 86
 DB 83 CAPLPAKSARSVRAQRHDTMPKTK 108

RESULT 7
 O93380
 ID O93380 PRELIMINARY; PRT; 153 AA.
 AC O93380;
 DT 01-NOV-1998 (TReMBLrel. 08, Created)
 DT 01-NOV-1998 (TReMBLrel. 08, Last sequence update)
 DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
 INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
 GN IGF1.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Archosauria: Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
OX NCBI_TaxID=9103;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG 6 ML TOM; TISSUE=LIVER;
RD Cerwinski S.M., Ashwell C.M., McMurtry J.P.;
RE "Cloning of turkey insulin-like growth factor-I (IGF-I).";
RL Submitted (JUN-1998) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF074980; AAC26006.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL.
FT CHAIN.
FT SEQUENCE 153 AA; 17295 MW; 5AF1E5B8D13C70B5 CRC64;
Query Match 70.6%; Score 422; DB 13; Length 153;
Best Local Similarity 89.5%; Pred. No. 4e-43;
Matches 77; Conservative 3; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
DB 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQ 86
DB 109 CAPIKPKSARSVRAQRHTDMPKRAQK 134
RESULT 8
O91230
ID Q91230 PRELIMINARY; PRT; 161 AA.
AC Q91230;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15961; AAA67267.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
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DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;
Query Match 67.5%; Score 403.5; DB 13; Length 161;
Best Local Similarity 72.0%; Pred. No. 7.2e-41;
Matches 77; Conservative 12; Mismatches 15; Indels 3; Gaps 2;
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
DB 45 GPETLCGAELVDLTQFVCGERGFFYSKPTGYGSSRRSHNRGIVDECCFQSCDLRRLEMY 104
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQYQPPSTNKNT--KSQRRKGST 105
DB 105 CAPVKSAGKAARSVRAQRHTDMPKTK-KPLSGNSHTSCKEVHOKNSS 150
RESULT 9
O91475
ID Q91475 PRELIMINARY; PRT; 145 AA.
AC Q91475;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Salmo salar (Atlantic salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
OX NCBI_TaxID=6030;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duquay S.J., Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81904; AAA18211.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER.
FT SIGNAL.
FT CHAIN.
FT NON_TER.
FT SEQUENCE 145 AA; 15885 MW; 3D94EDF477268FC4 CRC64;
Query Match 67.1%; Score 401; DB 13; Length 145;
Best Local Similarity 72.3%; Pred. No. 1.3e-40;
Matches 73; Conservative 11; Mismatches 17; Indels 0; Gaps 0;
QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
DB 19 GPETLCGAELVDLTQFVCGERGFFYSKPTGYGSSRRSHNRGIVDECCFQSCDLRRLEMY 78
QY 61 CAPLKPAKSARSVRAQRHTDMPKTKQYQPPSTNKNTKSRR 101
DB 79 CAPVKSAGKAARSVRAQRHTDMPKTKVSTAVQNVDRGTERR 119
RESULT 10
O91162
ID Q91162 PRELIMINARY; PRT; 155 AA.
AC Q91162;
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[illegible]

DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_Taxid=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN-BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX Devlin R.H.;
CC Submitted (OCT-1994) to the EMBL/GenBank/DDJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINA.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; IIGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.7%; Score 399; DB 13; Length 149;
Best Local Similarity 75.5%; Pred. No. 2.3e-40;
Matches 74; Conservative 10; Mismatches 12; Indels 2; Gaps 1;

QY 1 GPETLCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 45 GPETLCGAEIVDTLPVCGERGFGYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLLEY 104

QY 61 CAPLKPAAKSARSVRAORHTDMPKTKQ--YPPSTNKNT 96
Db 105 CAPVKSAAARSVRAORHTDMPKTPKEVHQKNSRGNT 142

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OM protein - protein search, using sw model

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11:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1990.DAT.*		
12:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1991.DAT.*		
13:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*		
14:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1993.DAT.*		
15:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1994.DAT.*		
16:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1995.DAT.*		
17:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1996.DAT.*		
18:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1997.DAT.*		
19:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1998.DAT.*		
20:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA1999.DAT.*		
21:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2000.DAT.*		
22:	/SIDS1/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*		

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	602	100.0	111	22	AAE02449 Rabbit IGF-I isofo
2	602	100.0	121	18	AAW23301 Rabbit insulin lik
3	572.5	95.1	110	22	AAE02447 Human IGF-I isofo
4	536	89.0	195	8	AAE02477 Sequence of pre-pr
5	512	85.0	111	22	AAE02448 Rat IGF-I isoform
6	468	77.7	105	22	AAE02452 Rabbit liver-type
7	465	77.2	105	22	AAE02450 Human insulin-like
8	465	77.2	137	22	AAU09067 Human insulin-like
9	465	77.2	153	16	AAE02450 Insulin-like growt
10	465	77.2	153	19	AAW69733 Human IGF-1. Homo
11	465	77.2	153	19	AAW57882 Human IGF-1 protei

12	465	77.2	156	18	AAW23302 Human insulin like
13	462	76.7	105	22	AAE02456 Rabbit liver-type
14	458	76.1	119	7	AAP60578 Human prepro-somat
15	456	75.7	154	14	AAW40844 Goat insulin like
16	454.5	75.5	191	19	AAW64068 Chimeric rhIGF-I-A
17	420	69.8	105	22	AAE02451 Rat liver-type IGF
18	420	69.8	105	22	AAE02531 Rat liver-type IGF
19	409	67.9	78	21	AAE98482 Pep 17 used in nuc
20	409	67.9	78	21	AAE59027 Peptide ligand pep
21	409	67.9	78	22	AAU02472 Nuclear ligand pep
22	409	67.9	78	22	AAE45835 Nucleic acid trans
23	398	66.1	176	17	AAE88089 Rainbow trout insu
24	384.5	63.9	186	16	AAE72472 Flatfish insulin-l
25	382	63.6	953	19	AAW56011 Recombinant botuli
26	382	63.5	70	5	AAP40034 Sequence of human
27	382	63.5	70	8	AAP70414 Sequence of oxidat
28	382	63.5	70	8	AAP71539 Sequence of human
29	382	63.5	70	10	AAE91502 New insulin-like g
30	382	63.5	70	14	AAE36846 Insulin-like growt
31	382	63.5	70	14	AAE41774 hIGF-1. Homo sapi
32	382	63.5	70	14	AAE43606 Peptide derived fr
33	382	63.5	70	15	AAE48590 Human IGF-I peptid
34	382	63.5	70	15	AAE55275 Sequence of insuli
35	382	63.5	70	16	AAE75657 Human insulin-like
36	382	63.5	70	17	AAE86874 Insulin like growt
37	382	63.5	70	17	AAE87744 Wild type IGF-1 se
38	382	63.5	70	17	AAE89949 Recombinant insuli
39	382	63.5	70	18	AAE33907 Peptide derived fr
40	382	63.5	70	18	AAW12342 Human mature insul
41	382	63.5	70	21	AAE12769 Human insulin-like
42	382	63.5	70	21	AAE12772 Human insulin-like
43	382	63.5	70	21	AAE09616 Insulin like growt
44	382	63.5	70	21	AAE84871 Amino acid sequenc
45	382	63.5	70	21	AAE88577 Native human insul

ALIGNMENTS

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Claim 4; Page 54; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.

XX Sequence 111 AA;

Query Match 100.0%; Score 602; DB 22; Length 111;
 Best Local Similarity 100.0%; Pred. No. 9.9e-55;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 2

AAW23301
 ID AAW23301 standard; Protein; 121 AA.

XX AAW23301;

XX 14-APR-1998 (first entry)

XX Rabbit insulin like growth factor 1.

XX Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.

XX Oryctolagus cuniculus.

XX WO9733997-A1.

XX 18-SEP-1997.

XX 11-MAR-1997; 97WO-GB00658.

XX 11-MAR-1996; 96GB-0005124.

XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.

XX Goldspink G;

XX WPI; 1997-470877/43.

XX N-PSDB; AAT84893.

PT Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases
 XX
 XX Disclosure; Fig 3; 33pp; English.

XX A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-1 used in the present specification.

XX Sequence 121 AA;

Query Match 100.0%; Score 602; DB 18; Length 121;
 Best Local Similarity 100.0%; Pred. No. 1.1e-54;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 11 GPTLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70

QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111

DB 71 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 121

RESULT 3

AAE02447

ID AAE02447 standard; Protein; 110 AA.

XX AAE02447;

XX 10-AUG-2001 (first entry)

XX Human IGF-I isoform mechano-growth factor (MGF) protein.

XX Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.

XX Homo sapiens.

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB04354.

XX 15-NOV-1999; 99GB-0026968.

XX (UNLO) UNIV COLLEGE LONDON.

XX Goldspink G, Johnson I;

XX WPI; 2001-355620/37.

XX N-PSDB; AAD06398.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -

XX Claim 4; Page 50-51; 66pp; English.

PS The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve

CC avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the

CC manufacture of a medicament for the treatment of a neurological disorder,

CC including a disorder of motoneurons and/or neurodegenerative disorder,

CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive

CC spinal muscular atrophy, infantile or juvenile muscular atrophy,

CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a

CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an

CC injury that affects motoneurons, motoneurone loss associated with aging,

CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,

CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.

CC The present sequence is human IGF-I isoform MGF. MGF is a muscle

CC isoform having extracellular (EC) domain, hence also referred as

CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by

CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame

CC of MGF.

XX Sequence 110 AA;

SQ

Query Match 95.1%; Score 572.5; DB 22; Length 110;

Best Local Similarity 96.4%; Pred. NO. 1.1e-51;

Matches 107; Conservative 1; Mismatches 2; Indels 1; Gaps 1;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60

Db 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKGSTFEEHK 111

Db 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMSQ-RRKGSTFEEHK 110

RESULT 4

AAP70277

ID AAP70277 standard; protein; 195 AA.

XX AAP70277;

XX 05-APR-1991 (first entry)

Sequence of pre-pro-insulin-like growth factor 1B (ppIGF-1B).

Growth promoter; lactation enhancer; cell proliferation.

Homo sapiens.

EP229750-A.

22-JUL-1987.

06-JAN-1987; 87EP-0870001.

20-NOV-1986; 86US-0929671.

07-JAN-1986; 86US-0816662.

(UNIW) UNIV OF WASHINGTON.

Krivi GG, Rotwein PS;

WPI; 1987-200203/29.

New pre-pro-insulin-like growth factor-1 protein - obtd. by

recombinant DNA procedures for use as growth promoters for

enhancing lactation, for stimulating cell proliferation etc.

Claim 11; Fig 6; 59pp; English.

XX A 42 base oligonucleotide corresponding to the DNA sequence encoding

CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).

CC The radiolabeled 42 mer was then employed to screen for IGF-I

CC containing DNA sequences in a human liver cDNA library. Insulin-

CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA

CC library by using lambdaagt 11 (AAN70435, AAN70436). The human IGF-1

CC genomic gene was isolated and mapped. It encodes at least two

CC preproinsulin-like growth factor-1 proteins. An essentially pure

CC preproinsulin-like growth factor-1 protein comprising the sequence

CC of amino acids shown in Figure six is claimed (AAP70277).

XX Sequence 195 AA;

SQ

Query Match 89.0%; Score 536; DB 8; Length 195;

Best Local Similarity 96.1%; Pred. NO. 1.2e-47;

Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60

Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKMSORRR 102

Db 109 CAPLPAKAAARSVRAQRHTDMPKTKYQPPSTNKKTSORRK 150

RESULT 5

AAE02448

ID AAE02448 standard; Protein; 111 AA.

XX AAE02448;

XX 10-AUG-2001 (first entry)

Rat IGF-I isoform mechano-growth factor (MGF) protein.

Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;

mechano-growth factor; neurological disorder; neurodegenerative disorder;

amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;

poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

sex-linked muscular dystrophy; peripheral neuropathy;

Alzheimer's disease; Parkinson's disease.

Rattus sp.

WO200136483-A1.

25-MAY-2001.

15-NOV-2000; 2000WO-GB04354.

15-NOV-1999; 99GB-0026968.

(UNLO) UNIV COLLEGE LONDON.

Goldspink G, Johnson I;

WPI; 2001-355620/37.

N-PSDB; AAD06399,

Use of mechano-growth factor, an isoform of Insulin-like Growth

Factor-I, capable of reducing motoneurone loss, in the manufacture of a

medicament for the treatment of neurological disorder -

Claim 4; Page 52; 66pp; English.

The present invention relates to use of mechano-growth factor (MGF),

an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a

medicament for the treatment of neurological disorder. The MGF is capable

of reducing motoneurone loss by 20% or greater in response to nerve

avulsion, and effects motoneurone rescue, preferably adult motoneurone

CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC of nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.

XX Sequence 111 AA;

Query Match 85.0%; Score 512; DB 22; Length 111;
 Best Local Similarity 86.5%; Pred. NO. 2e-45;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

1 GPTLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
 DB |||||
 1 GPTLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
 QY 61 CAPLPAKAARSVRAQRHMDPKTKYQPPSTNKKMKSQRRRGKSTFEEHK 111
 DB |||||
 61 CVCRKPTKSARSIRAQRHMDPKTKQSPLSTHKKRKLQRRKGSTLEHK 111

RESULT 6

AAE02452
 ID AAE02452 standard; Protein; 105 AA.

XX AC AAE02452;

XX DT 10-AUG-2001 (first entry)

XX DE Rabbit liver-type IGF-I isoform (L.IGF-I) protein.

XX KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX OS Oryctolagus cuniculus.

XX WO200136483-A1.

XX PD 25-MAY-2001.

XX PF 15-NOV-2000; 2000WO-GB04354.

XX PR 15-NOV-1999; 99GB-0026968.

XX PA (UNLO) UNIV COLLEGE LONDON.

XX PI Goldspink G, Johnson I;

XX DR WPI; 2001-355620/37.

XX DR N-PSDB; AAD06405.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -

XX Disclosure; Page 60-61; 66pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),

CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of a neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit liver-type IGF-I isoform (L.IGF-I).
 CC The L.IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence (SEQ ID NO: 14) is stated as being the
 CC same as that shown in figure 10 (AAE02456) of the specification. However
 CC it differs at few positions.

XX Sequence 105 AA;

Query Match 77.7%; Score 468; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 6.6e-41;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
 DB |||||
 1 GPTLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

QY 61 CAPLPAKAARSVRAQRHMDPKTK 86

DB 61 CAPLPAKAARSVRAQRHMDPKTK 86

RESULT 7

AAE02450
 ID AAE02450 standard; Protein; 105 AA.

XX AC AAE02450;

XX DT 10-AUG-2001 (first entry)

XX DE Human liver-type IGF-I isoform (L.IGF-I) protein.

XX KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX OS Homo sapiens.

XX PN WO200136483-A1.

XX PD 25-MAY-2001.

XX PF 15-NOV-2000; 2000WO-GB04354.

XX PR 15-NOV-1999; 99GB-0026968.

XX PA (UNLO) UNIV COLLEGE LONDON.

XX PI Goldspink G, Johnson I;

XX DR WPI; 2001-355620/37.

XX DR N-PSDB; AAD06403.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a

PT medicament for the treatment of neurological disorder -

PS Disclosure: Fig 8; 56pp; English.

XX The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult in the
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human liver-type IGF-I isoform (L-IGF-I).
CC The L-IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 5.

XX Sequence 105 AA;

Query Match 77.2%; Score 465; DB 22; Length 105;

Best Local Similarity 98.8%; Pred. No. 1.3e-40;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60

DB 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60

QY 61 CAPLPKAKARSVRAQRHTDMPKTOK 86

DB 61 CAPLPKAKARSVRAQRHTDMPKTOK 86

RESULT 8

AAU09067

ID AAU09067 standard; Protein: 137 AA.

XX

AC AAU09067;

XX

DT 19-DEC-2001 (first entry)

Human insulin-like growth factor, IGF1.

KW Human; long-term memory protein; LTM; insulin-like growth factor;
KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;
KW cerebroprotective; drug discovery; therapeutic profiling;
KW learning disability; memory impairment; brain injury; epilepsy;
KW mental retardation; senile dementia; Alzheimer's disease.

XX Homo sapiens.

XX WO200174298-A2.

XX

PD 11-OCT-2001.

XX

PF 02-APR-2001; 2001WO-US10661.

XX

PR 31-MAR-2000; 2000US-193614P.

XX

PA (UYBR-) UNIV BROWN RESEARCH FOUND.

PA (HUGH-) HUGHES HOWARD MED INST.

XX

PI Alberini CM, Bear MF;

XX

DR WPI; 2001-626335/72.

DR N-PSDB; AAS14695.

XX

PT Regulating memory consolidation in an animal comprising treating with

PT an agent that modulates activity of one or more genes from zif268,
PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF
XX
PS Disclosure: Page 90-91; 100pp; English.

XX The invention relates to modulating long term memory consolidation in an
CC animal comprises treating with an agent that modulates the activity of
CC one or more of genes from zif268, insulin-like growth factor (IGF),
CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
CC for identifying an agent which modulates memory consolidation. The method
CC is useful for conducting a drug and/or target discovery business, which
CC comprises conducting therapeutic profiling of the agents (or their
CC analogues) identified, for efficacy and toxicity in animals, and
CC formulating a pharmaceutical preparation including one or more agents
CC identified as having an acceptable therapeutic profile and/or licensing
CC to a third party the rights for further drug development of the
CC identified agents. The method of conducting drug discovery business
CC further comprises an additional step of establishing a distribution
CC system for distributing the preparation for sale and may optionally
CC include establishing a sales group for marketing the preparation. A
CC pharmaceutical composition containing the agent is useful for enhancing
CC memory consolidation in an animal, or for augmenting learning and memory,
CC or otherwise for enhancing the functional performance of central nervous
CC system neurons, where the agent is a cAMP elevating agent (agonist)
CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
CC activates adenylyl cyclase. The composition is useful for treating
CC diseases associated with learning disabilities, memory impairment e.g.
CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
CC children and senile dementia, including Alzheimer's disease. The
CC present sequence represents human insulin-like growth factor, IGF1.

XX Sequence 137 AA;

Query Match 77.2%; Score 465; DB 22; Length 137;

Best Local Similarity 98.8%; Pred. No. 1.8e-40;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60

DB 33 GPETLCGAEALVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 92

QY 61 CAPLPKAKARSVRAQRHTDMPKTOK 86

DB 93 CAPLPKAKARSVRAQRHTDMPKTOK 118

RESULT 9

AAR83803

ID AAR83803 standard; protein: 153 AA.

XX

AC AAR83803;

XX

DT 15-FEB-1996 (first entry)

XX Insulin-like growth factor 1.

XX

KW Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
KW burn; wound; brain metastasis.

XX Homo sapiens.

XX

FT Key

FT Peptide

FT Domain

FT Domain

FT Domain

FT Domain

FT Domain

FT Domain

FT Domain

FT Domain

Location/Qualifiers
49..118
/label= mature peptide
49..77
/label= B domain
78..89
/label= C domain
90..110
/label= A domain
111..118

FT XX /label= D domain
PN W09516703-A1.
XX
XX 22-JUN-1995.
PD
XX 15-DEC-1994; 94WO-US14576.
PF
XX 15-DEC-1993; 93US-0167653.
PR
XX (UYJE-) UNIV JEFFERSON THOMAS.
PA
XX Baserga R, Jameson BA;
PI
XX WPI; 1995-231515/30.
DR
XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
PT in treatment of diseases associated with undesirable cell
PT proliferation
XX
XX Disclosure; Page 20-21; 28pp; English.
PS
XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
XX Processing of the protein results in a 70 amino acid mature protein. The
XX mature protein is split into 4 domains; the B domain has strong homology
CC to the B chain of insulin, the A domain similarly has homology to the A
CC chain of insulin. These domains are separated by a C domain and the
CC mature protein is terminated by a D domain at the C-terminus. The D
CC domain sequence was used to synthesize peptides (AAR83801-2) that
CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
CC Activated IGF-1R is associated with cellular growth and proliferation.
CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
CC IGF-1R and thus may be used in the treatment of disorders characterised
CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
CC wounds or brain metastases.
XX
XX SQ Sequence 153 AA;
SQ Query Match 77.2%; Score 465; DB 16; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 60
DB 49 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
SQ Sequence 153 AA;
SQ Query Match 77.2%; Score 465; DB 16; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 60
DB 49 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
RESULT 10
AAW69733
ID AAW69733 standard; Protein; 153 AA.
XX
XX AAW69733;
AC
XX 26-OCT-1998 (first entry)
DT
XX Human IGF-1.
DE
XX IGF-1; insulin-like growth factor 1; urinary incontinence;
KW Human; IGF-1; insulin-like growth factor 1; skeletal alpha-actin gene promoter;
KW gene therapy; neurotrophic factor.
XX
XX Homo sapiens.
OS
XX W09833529-A1.
PN
XX 06-AUG-1998.
PD
XX 04-FEB-1998; 98WO-US02051.
PF

XX 04-FEB-1997; 97US-0036862.
PR (GENE-) GENEMEDICINE INC.
XX
XX Coleman M;
PI
XX WPI; 1998-437184/37.
DR N-PSDB; AAV50425.
XX
PT Treatment of urinary incontinence - by delivering nucleic acid
PT vector for expression of growth factor or neurotrophic factor in
PT tissue(s)
XX
XX Claim 12d; Page 108-109; 117pp; English.
PS
XX A method has been developed of treating urinary incontinence (UI) in
CC mammals. The method comprises delivering a nucleic acid vector for the
CC expression of a growth factor or neurotrophic factor in a tissue or
CC tissues. The present sequence represents human IGF-1 (insulin-like
CC growth factor 1) which is used in the method of the invention. Due to
CC the growth and stimulatory effects of growth factors and neurotrophic
CC factors, introducing these factors to degenerated muscles in the
CC urinary system can improve UI by enhancing both their integrity and
CC neural innervation.
XX
XX SQ Sequence 153 AA;
SQ Query Match 77.2%; Score 465; DB 19; Length 153;
Best Local Similarity 98.8%; Pred. No. 2e-40;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 60
DB 49 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLLEY 108
QY 61 CAPLPAKAAARSVRAQRHTDMPKTQK 86
DB 109 CAPLPAKAAARSVRAQRHTDMPKTQK 134
RESULT 11
AAW57882
ID AAW57882 standard; Protein; 153 AA.
XX
XX AAW57882;
AC
XX 23-SEP-1998 (first entry)
DT
XX Human IGF-I protein.
DE
XX IGF-I; insulin-like growth factor I; skeletal alpha-actin gene promoter;
KW muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS;
KW Chacot-marie-tooth disease; atherogenesis; haemophilia; neuropathy.
XX
XX Homo sapiens.
OS
XX W09824922-A1.
PN
XX 11-JUN-1998.
PD
XX 01-DEC-1997; 97WO-US21852.
PF
XX 19-NOV-1997; 97US-0974572.
PR
XX 02-DEC-1996; 96US-0031539.
PR
XX (BAY) BAYLOR COLLEGE MEDICINE.
PA (GENE-) GENEMEDICINE INC.
XX
XX Coleman M, Demayo FJ, Schwartz R;
PI
XX WPI; 1998-333339/29.
DR N-PSDB; AAV40793, AAV40794.

XX New vector for expression of insulin-like growth factor-I -
 PT containing a skeletal alpha-actin gene promoter, IGF-I coding
 PT sequences and a 3' region from growth hormone 3'-UTR
 XX Disclosure; Fig 13; 115pp; English.
 XX
 XX This sequence is the human insulin-like growth factor I (IGF-I). The
 CC DNA can be used in the vector of the invention, for expression of a
 CC nucleic acid sequence in a cell, which comprises: (a) a nucleic acid
 CC cassette containing a sequence encoding IGF-I; (b) a 5' flanking region
 CC including one or more sequences necessary for expression of the nucleic
 CC acid cassette, including a promoter from a skeletal alpha-actin gene;
 CC (c) a linker connecting the 5' flanking region to a nucleic acid, and
 CC linker having a position for inserting the nucleic acid cassette, and
 CC lacking the coding sequence of a gene with which it is naturally
 CC associated; and (d) a 3' flanking region, including a 3' untranslated
 CC region or a 3' non coding region or both, where the 3' flanking region is
 CC a sequence from a growth hormone 3'-UTR. The vector can provide for
 CC efficient IGF-I expression, particularly in gene therapy. It can be used
 CC for the delivery of IGF-I for treating diseases such as muscle atrophy,
 CC diabetes, neuropathy, osteoporosis, and growth disorders. They can be
 CC used for treating peripheral neuropathies resulting from diabetes,
 CC genetic disease such as Type I or Type II diabetes, genetic disease such
 CC as Chacot-marie-tooth disease, AIDS, atherosclerosis, atherosclerotic,
 CC cardiovascular, cerebrovascular, or peripheral vascular disease,
 CC haemophilia, inflammation and side-effects from anti-cancer and
 CC anti-viral drugs. The vectors can also be used to create transgenic
 CC animals for research or livestock improvement.
 XX Sequence 153 AA;

Query Match 77.2%; Score 465; DB 19; Length 153;

Best Local Similarity 98.8%; Pred. No. 2e-40;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

DB 49 GPTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CAPLPAKAAARSVRAQRHTDMPKTK 86

DB 109 CAPLPAKAAARSVRAQRHTDMPKTK 134

BLT 12

23302

ID AAW23302 standard; Protein; 156 AA.

XX AC AAW23302;

DT 14-APR-1998 (first entry)

XX Human insulin like growth factor 1 Ea isoform.

XX Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.

XX Homo sapiens.

XX WO9733997-Al.

XX 18-SEP-1997.

XX 11-MAR-1997; 97WO-GB00658.

XX 11-MAR-1996; 96GB-0005124.

XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.

XX Goldspink G;

XX

DR WPI; 1997-470877/43.
 XX N-PSDB; AAT84894.

PT Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases

XX Disclosure; Fig 4; 33pp; English.

XX A use of insulin like growth factor I (IGF-I) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents human
 CC IGF-1 Ea isoform used in the present specification.

XX Sequence 156 AA;

Query Match 77.2%; Score 465; DB 18; Length 156;

Best Local Similarity 98.8%; Pred. No. 2e-40; Indels 0; Gaps 0;

Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60

DB 52 GPTLCGAEVLVDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 111

QY 61 CAPLPAKAAARSVRAQRHTDMPKTK 86

DB 112 CAPLPAKAAARSVRAQRHTDMPKTK 137

RESULT 13

AAE02456

ID AAE02456 standard; Protein; 105 AA.

XX AC AAE02456;

DT 10-AUG-2001 (first entry)

XX Rabbit liver-type IGF-I isoform (L.IGF-I) protein, alternative version.

XX Rabbit; IGF-I isoform; Insulin-like growth factor-I; MGF;

XX mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;

XX nerve damage; autosomal muscular dystrophy; diabetic neuropathy;

XX sex-linked muscular dystrophy; peripheral neuropathy;

XX Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.

XX Oryctolagus cuniculus.

XX Key Location/Qualifiers

FT Misc-difference 3

FT Misc-difference 9 /note= "Encoded by GAG"

FT Misc-difference 9 /note= "Encoded by GAG"

FT Misc-difference 9 /note= "Encoded by GAG"

XX WO200136483-A1.

XX 25-MAY-2001.

XX 15-NOV-2000; 2000WO-GB04354.

XX 15-NOV-1999; 99GB-0026968.

XX (UNLO) UNIV COLLEGE LONDON.

XX

XX Goldspink G, Johnson I;
PI WPI: 2001-355620/37.
XX N-PSDB; AAD06405.
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
PS Disclosure; Fig 10; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is alternative version of rabbit liver-type IGF-I
CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence is stated as being the same as SEQ ID NO:14
CC shown in sequence listing (AAE02452) of the specification. However
CC it differs at few positions.
XX
XX Sequence 105 AA;

Query Match 76.7%; Score 462; DB 22; Length 105;
Best Local Similarity 97.7%; Pred. No. 2.7e-40;
Matches 84; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 1 GPTLCGAEVLDAQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
QY 61 CAPLKPAAKARSVRAQRHDTMPKTQK 86
DB 61 CAPLKPAAKARSVRAQRHDTMPKTQK 86

RESULT 14
AAP60578
AAP60578 standard; Protein; 119 AA.

AC AAP60578;
DT 31-JUL-1991 (first entry)
DE Human prepro-somatomedin-C.
KW Somatomedin-C.

Key Location/Qualifiers
FT Protein 1..119
FT /label= prepro-somatomedin-C
FT Protein 15..84
FT /label= mature somatomedin-C

XX WO8600619-A.
XX
XX 30-JAN-1986.
XX
XX 10-JUL-1985; 85WO-US01325.

PR 13-JUL-1984; 84US-0630557.
XX (CHIR-) CHIRON CORP.
XX Bell G, Rall LB, Merryweather JP;
PI WPI: 1986-042104/06.
XX N-PSDB; AAN60490.
DR Pre-pro insulin-like growth factors I and II - obt'd. from the
PT human genome by e.g. screening a cDNA library obt'd. from human
PT liver cells.
XX
XX Disclosure; Fig 1; 20pp; English.
XX The sequence is human prepro-somatomedin-C. DNA probes
CC prepared against DNA encoding the protein sequence may be used to
CC detect the presence of the genes in a natural source. The probes
CC may be used to detect mutations and/or deletions in humans
CC suffering from growth deficiencies.
CC See also AAN60489, AAN60491
XX
XX Sequence 119 AA;

Query Match 76.1%; Score 458; DB 7; Length 119;
Best Local Similarity 97.7%; Pred. No. 8.1e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 15 GPTLCGAEVLDAQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 74
QY 61 CAPLKPAAKARSVRAQRHDTMPKTQK 86
DB 75 CAPLKPAAKARSVRAQRHDTMPKTQK 100

RESULT 15
AAR40844
ID AAR40844 standard; Protein; 154 AA.

AC AAR40844;
DT 03-MAR-1994 (first entry)
DE Goat Insulin like growth factor 1 (IGF-1) precursor.
XX Insulin; growth factor; bone; tumour therapy.

OS Capra hircus.
XX
XX JP05199878-A.
PD 10-AUG-1993.

XX 02-DEC-1991; 91JP-0347820.
XX 02-DEC-1991; 91JP-0347820.

XX (KOMA/) KOMANO T.
XX
XX WPI: 1993-284680/36.
XX N-PSDB; AAQ47804.

PT Goat insulin-like growth factor I - useful for prepn. of
PT insulin-like growth factor I used for growth of bone and tumour
PT therapy

PS Claim 2; Figure 1; 6pp; Japanese.

XX The goat IGF precursor is useful for the preparation of IGF-1 which
CC is used for growth of bone and the therapy of tumours. The IGF-1
CC precursor is prepared by inserting the coding sequence into an

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 10.0301 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPEITLCAELVDALQFVCGD.....TNKKMSQRRKSGTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Shed: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA: *
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep.*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep.*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep.*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep.*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep.*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	602	100.0	121	4	US-09-142-583A-4
2	465	77.2	137	1	Sequence 4, Appli
3	465	77.2	152	3	Sequence 10, Appl
4	465	77.2	153	1	Sequence 9, Appli
5	465	77.2	133	5	Sequence 1, Appli
6	465	77.2	156	4	Sequence 11, Appl
7	458	76.1	119	6	Patent No. 5405942
8	454.5	75.5	191	3	US-09-142-583A-11
9	454.5	75.5	191	3	US-08-989-251-41
10	454.5	75.5	191	4	Sequence 41, Appl
11	409	67.9	78	2	Sequence 41, Appl
12	409	67.9	78	3	Sequence 47, Appl
13	409	67.9	78	4	Sequence 47, Appl
14	398	66.1	176	1	Sequence 47, Appl
15	398	66.1	176	1	Sequence 9, Appli
16	382	63.5	70	1	Sequence 1, Appli
17	382	63.5	70	1	Sequence 17, Appl
18	382	63.5	70	1	Sequence 17, Appl
19	382	63.5	70	1	Sequence 17, Appl
20	382	63.5	70	1	Sequence 17, Appl
21	382	63.5	70	1	Sequence 17, Appl
22	382	63.5	70	3	Sequence 1, Appli
23	382	63.5	70	3	Sequence 1, Appli
24	382	63.5	70	4	Sequence 1, Appli
25	382	63.5	70	5	Sequence 1, Appli
26	382	63.5	70	5	Sequence 1, Appli
27	382	63.5	70	5	Sequence 1, Appli

US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

ALIGNMENTS

RESULT 1

US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

Query Match 100.0%; Score 602; DB 4; Length 121;
Best Local Similarity 100.0%; Pred. No. 2.8e-64;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPEITLCAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLLEY 60

Db 11 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
Qy 61 CAPLKPAKARSVRAQRHTDMPKTKQYPPSTNKKMKSORRRKSGSTPEEHK 111
Db 71 CAPLKPAKARSVRAQRHTDMPKTKQYPPSTNKKMKSORRRKSGSTPEEHK 121

RESULT 2
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Verslon #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."
US-07-953-230A-10

Query Match 77.2%; Score 465; DB 1; Length 137;
Best Local Similarity 98.8%; Pred. No. 6.3e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92
Qy 61 CAPLKPAKARSVRAQRHTDMPKTKQ 86
Db 93 CAPLKPAKARSVRAQRHTDMPKTKQ 118

RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
US-08-950-720A-9
Query Match 77.2%; Score 465; DB 3; Length 152;
Best Local Similarity 98.8%; Pred. No. 7.1e-48;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPELTCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
Qy 61 CAPLKPAKARSVRAQRHTDMPKTKQ 86
Db 83 CAPLKPAKARSVRAQRHTDMPKTKQ 108

RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
FILING DATE: 08-MAY-1992
APPLICATION NUMBER: US/08/219,878A
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match
Best Local Similarity 77.2%; Score 465; DB 1; Length 153;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCFSCDLRLRLEY 60
Db 49 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCFSCDLRLRLEY 108

QY 61 CAPLCPAKAARSVRAQRHTDMPKTK 86
Db 109 CAPLCPAKAARSVRAQRHTDMPKTK 134

RESULT 5
US-09-852-261-6.rai
GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSEE: Woodcock Washburn
ADDRESSER: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92,
ATTORNEY/AGENT INFORMATION:
NAME: Mark DeLuca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1

Query Match
Best Local Similarity 77.2%; Score 465; DB 5; Length 153;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCFSCDLRLRLEY 60
Db 49 GPTLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDCFCFSCDLRLRLEY 108

QY 61 CAPLCPAKAARSVRAQRHTDMPKTK 86
Db 109 CAPLCPAKAARSVRAQRHTDMPKTK 134

RESULT 6
US-09-142-583A-11
Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEOFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match
Best Local Similarity 77.2%; Score 465; DB 4; Length 156;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 60
|||||
Db 52 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 111
|||||
QY 61 CAPLPAKAA-RSVRAQRHTDMPKTOK 86
|||||
Db 112 CAPLPAKAA-RSVRAQRHTDMPKTOK 137
|||||

RESULT 7
5405942-1
; Patent No. 5405942
; APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,
; JAMES P.
; TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
; I AND II
; NUMBER OF SEQUENCES: 16
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/65,673
; FILING DATE: 16-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 630,557
; FILING DATE: 19-JUL-1984
; SEQ ID NO:1:
; LENGTH: 119
; 5405942-1

Query Match 76.1%; Score 458; DB 6; Length 119;
Best Local Similarity 97.7%; Pred. No. 3.6e-47;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 60
|||||
Db 15 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 74
|||||

QY 61 CAPLPAKAA-RSVRAQRHTDMPKTOK 86
|||||
Db 75 CAPLPAKAA-RSVRAQRHTDMPKTOK 100
|||||

RESULT 8
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 60
|||||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 145
|||||

QY 61 CAPLPAKAA-RSVRAQRHTDMPKTOK 86
|||||
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; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-251-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 60
|||||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 145
|||||

QY 61 CAPLPAKAA-RSVRAQRHTDMPKTOK 86
|||||
Db 146 CAPLPAKAA-RSVRAQRHTDMPKTOK 172
|||||

RESULT 9
US-09-340-250-41
; Sequence 41, Application US/09340250
; Patent No. 6083723
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/340,250
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-340-250-41

Query Match 75.5%; Score 454.5; DB 3; Length 191;
Best Local Similarity 97.7%; Pred. No. 1.7e-46;
Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 60
|||||
Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLREMY 145
|||||

QY 61 CAPLPAKAA-RSVRAQRHTDMPKTOK 86
|||||
```

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTQK 172
|||||||:|||||||

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; TITLE OF INVENTION: PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murry
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-09-528-108-41

Query Match 75.5%; Score 454.5; DB 4; Length 191;

Best Local Similarity 97.7%; Pred. No. 1.7e-46;

Matches 85; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 60

Db 86 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMY 145

Qy 61 CAPLPAKAA-RSVRAQRHTDMPKTQK 86

Db 146 CAPLPAKSAKRSVRAQRHTDMPKTQK 172

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 67.9%; Score 409; DB 2; Length 78;

Best Local Similarity 96.1%; Pred. No. 1.5e-41;

Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 63

Db 2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 61

Qy 64 LKPAKARSVRAQRHTD 80

Db 62 LRPARSARSVRAQRHTD 78

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.

```

; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/167,641C
; FILING DATE: December 14, 1993
; CLASSIFICATION: 435
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 205/012
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-167-641C-47

Query Match 67.9%; Score 409
Best Local Similarity 96.1%; pred. No. 3; Mismatch
Matches 74; Conservative

QY 4 TLCGAELVDALQFVCGDRGRFYFNKPTGYGSSSR
Db 2 TLCGAELVDALQFVCGDRGRFYFNKPTGYGSSSR
QY 64 LKPAKAARSVRAQRHTD 80
Db 62 LRPAKSARSVRAQRHTD 78

RESULT 13
US-08-460-971A-47
; Sequence 47, Application US/08460971A
; Patent No. 6150168
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L.C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSFER
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSEQ for Windows 2.0
; CURRENT APPLICATION DATA:

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; APPLICATION NUMBER: US/08/460, 971A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/063
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-971A-47

Query Match 67.9%; Score 409; DB 4; Length 78;
Best Local Similarity 96.1%; Pred. No. 1.5e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

QY 4 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 63
Db 2 TLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
QY 64 LKPAKAARSVRAQRHTD 80
Db 62 LRPARSARSVRAQRHTD 78

RESULT 14
US-08-462-040-47
; Sequence 47, Application US/08462040
; Patent No. 6177554
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L. C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; TITLE OF INVENTION: METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; STREET: Suite 4700
; CITY: Los Angeles
; STATE: California
; COUNTRY: U.S.A.
; ZIP: 90071-2066
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/462,040
; FILING DATE: June 5, 1995
; CLASSIFICATION: 536
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993

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APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/078
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-462-040-47

Query Match 67.9%; Score 409; DB 4; Length 78;
Best Local Similarity 96.1%; Pred. No. 1.5e-41;
Matches 74; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
QY 4 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMYCAP 63
Db 2 TLGGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMYCAP 61
QY 64 LKPAKARSVRAQRHTD 80
Db 62 LKPAKARSVRAQRHTD 78

RESULT 15
US-07-953-230A-9
Sequence 9, Application US/07953230A
Patent No. 5476779
GENERAL INFORMATION:
APPLICANT: CHEN, Thomas T
APPLICANT: SHAMBLOTT, Michael J
TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
TITLE OF INVENTION: FROM RAINBOW TROUT
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Burns, Doane, Swecker & Mathis
STREET: George Mason Bldg., Washington & Prince Sts.
CITY: Alexandria
STATE: Virginia
COUNTRY: United States
ZIP: 22313-1404
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/953,230A
FILING DATE: 30-SEP-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Crane-Feury, Sharon E
REGISTRATION NUMBER: 36,113
REFERENCE/DOCKET NUMBER: 028755-010
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 836-6620
TELEFAX: (703) 836-2021
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 176 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
US-07-953-230A-9

Query Match 66.1%; Score 398; DB 1; Length 176;
Best Local Similarity 62.8%; Pred. No. 7.8e-40;
Matches 76; Conservative 9; Mismatches 20; Indels 16; Gaps 1;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 45 GPETLCGAELVDLTQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKY-----QPPSTNKKKKKQRRRKG 104
Db 105 CAPVSKGKAARSVRAQRHTDMPKTKYAVQSVDRGTERRTAQHPDKTKPKKEVHQKNS 164
QY 105 S 105
Db 165 S 165

Search completed: October 25, 2002, 16:00:05
Job time : 10.0301 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.68675 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCAELVDALQFVCGD.....TNKKMKSORRRKSGTFEEHK 111

Scoring table: BIOSUM62
Gapop 10.0 , Gapext 0.5

ched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	602	100.0	143	1	IGF1_RABIT
2	539	89.5	133	1	IGFB_MOUSE
3	536	89.0	195	1	IGFB_HUMAN
4	508	84.4	181	1	IGFB_RAT
5	465	77.2	130	1	IGF1_CAVPO
6	465	77.2	153	1	IGFA_HUMAN
7	460	76.4	122	1	IGF1_CANFA
8	460	76.4	153	1	IGF1_PIG
9	460	76.4	154	1	IGF1_BOVIN
10	456	75.7	154	1	IGF1_CAPHI
11	452	75.1	154	1	IGF1_SHEEP
12	450	74.8	127	1	IGFA_MOUSE
13	447	74.3	153	1	IGFA_RAT
14	419	69.6	124	1	IGF1_COTJA
15	419	69.6	153	1	IGF1_CHICK
16	417	69.3	81	1	IGF1_SUNMU
17	412.5	68.5	153	1	IGF1_XENLA
18	403	66.9	161	1	IGFB_CYPCA
19	402	66.8	176	1	IGF1_ONCKI
20	400	66.4	122	1	IGF1_HORSE
21	398	66.1	176	1	IGF1_ONCMY
22	393	65.3	161	1	IGFA_CYPCA
23	272	45.2	214	1	IGF2_ONCMY
24	242	40.2	179	1	IGF2_SHEEP
25	236	39.2	155	1	IGF2_BOVIN
26	232	38.5	180	1	IGF2_HUMAN
27	231	38.4	128	1	IGF2_CAVPO
28	229.5	38.1	129	1	IGF2_MUSVI
29	229	38.0	139	1	IGF2_MXGL
30	229	38.0	181	1	IGF2_HORSE
31	229	38.0	181	1	IGF2_PIG
32	227	37.7	180	1	IGF2_MOUSE
33	224.5	37.3	180	1	IGF2_RAT

ALIGNMENTS

RESULT 1

ID	IGF1_RABIT	STANDARD;	PRT;	143 AA.
AC	Q95222; O18846;			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	16-OCT-2001 (Rel. 40, Last sequence update)			
DT	16-OCT-2001 (Rel. 40, Last annotation update)			
DE	Insulin-like growth factor I precursor (IGF-I) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Oryctolagus cuniculus (Rabbit).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.			
OX	NCBI_TaxID=9986;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1A).			
RC	STRAIN=ZIKR;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.			
RN	[2]			
RP	SEQUENCE FROM N.A. (ISOFORM IGF-1B).			
RC	STRAIN=ZIKR; TISSUE=Liver;			
RA	Flekna G., Brem G., Mueller M.;			
RL	Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.			
CC	-!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.			
CC	-!- SUBCELLULAR LOCATION: Secreted.			
CC	-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS: IGF-1A AND IGF-1B (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.			
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
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EMBL	U75390; AAB48032.1; -			
EMBL	AF022961; AAB80950.1; -			
HSSP	P05019; IGF1.			
DR	InterPro: IPR000739; Insulin_IGF_relaxin.			
DR	Pfam: PF00049; Insulin; 1.			
DR	PRINTS: PR00276; INSULINA.			
DR	PRINTS: PR00277; INSULINB.			
DR	ProDom: PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART: SM00078; IIGF; 1.			
DR	PROSITE: PS00262; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Signal; Alternative splicing.			
FT	SIGNAL	1	32	POTENTIAL.
FT	CHAIN	33	102	INSULIN-LIKE GROWTH FACTOR I.
FT	PROPEP	103	143	E PEPTIDE.
FT	DOMAIN	33	61	B.
FT	DOMAIN	62	73	C.
FT	DOMAIN	74	94	A.

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FT DOMAIN 95 102 D.
FT DISULFID 38 80 BY SIMILARITY.
FT DISULFID 50 93 BY SIMILARITY.
FT DISULFID 79 84 BY SIMILARITY.
FT VARSPLIC 119 143 YOPPSTNKKMSORRRKSGSTFEHK -> EVHLKNTSRGSA
FT GKNKYM (IN ISOFORM IGF-IA).
SQ SEQUENCE 143 AA; 16091 MW; 819AF377800A1B1A CRC64;

Query Match
Best Local Similarity 100.0%; Score 602; DB 1; Length 143;
Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 33 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 92
QY 61 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGSTFEHK 111
DB 93 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGSTFEHK 143

RESULT 2
IGFB_MOUSE
AC P05018; STANDARD; PRT; 133 AA.
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGF1 OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempfen M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P05017) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
CC EMBL; X04482; CAA28170.1;
CC PIR; B25540; B25540.
CC HSP; P05019; IGF1.
CC MGI; 96432; Igfl.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULIN.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC INSULIN family; Growth factor; Plasma; Alternative splicing; Signal.
KW SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 23 51 B.
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FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DISULFID 85 92 D.
FT PROPEP 93 133 E PEPTIDE..
FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B88D62502 CRC64;

Query Match
Best Local Similarity 89.5%; Score 539; DB 1; Length 133;
Matches 101; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 23 GPETLCGAEVLDAQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 82
QY 61 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGSTFEHK 111
DB 83 CAPLPAKAARSVRAQRHTDMPKTKYQPPSTNKKMSORRRKSGSTFEHK 133

RESULT 3
IGFB_HUMAN
AC P05019; STANDARD; PRT; 195 AA.
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
GN IGF1 OR IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides."
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=86094355; PubMed=3455760;
RA Rotwein P.;
RT "Two insulin-like growth factor I messenger RNAs are expressed in
RT human liver."
RL Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II."
RL FEBS Lett. 195:179-184(1986).
RN [4]
RP SEQUENCE OF 22-50 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Haylick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family."
RL Nature 310:777-781(1984).
RN [5]
RP SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin."
RL J. Biol. Chem. 253:2769-2776(1978).
RN [6]
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RT acid splicing.;
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [4]
RN SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapp J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC TISSUE=Pancreas;
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P08025) AND
CC ISOFORM IGF-IB (SHOWN HERE) ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC
CC EMBL; M15650; AAA41214.1;
CC EMBL; M15647; AAA41214.1; JOINED.
CC EMBL; M15648; AAA41214.1; JOINED.
CC EMBL; M15649; AAA41214.1; JOINED.
CC EMBL; X06107; CAA29480.1; ALT_SEQ.
CC EMBL; M15480; AAA41385.1; ALT_SEQ.
CC PIR; A27804; A27804.
CC PIR; A26859; A26859.
CC PIR; A32857; A32857.
CC HSSP; P05019; IGF1.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 48
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 181 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF. 2).
SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match 84.4%; Score 508; DB 1; Length 181;
Best Local Similarity 88.7%; Pred. No. 2.5e-46;
Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 49 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRKKGST 106
Db 109 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKSQRRKKGST 154

RESULT 5
IGF1_CAVPO
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ID IGF1_CAVPO STANDARD; PRT; 130 AA.
AC P17647;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 01-FEB-1994 (Rel. 28, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pancreas;
RX MEDLINE=90332447; PubMed=2377480;
RA Bell G. I., Stempien M. M., Fong N. M., Scino S.;
RT "Sequence of a cDNA encoding guinea pig IGF-I.";
RL Nucleic Acids Res. 18:4275-4275(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC
CC EMBL; X52951; CAA37127.1;
CC PIR; S12719; IGGP1.
CC HSSP; P05019; IGF1.
CC InterPro; IPR000739; Insulin_IGF_relaxin.
CC Pfam; PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom; PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; ILGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
CC Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 25
FT CHAIN 26 95 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 26 54 B.
FT DOMAIN 55 66 C.
FT DOMAIN 67 87 A.
FT DOMAIN 88 95 D.
FT PROPEP 96 130 E PEPTIDE.
FT DISULFID 31 73 BY SIMILARITY.
FT DISULFID 43 86 BY SIMILARITY.
FT DISULFID 72 77 BY SIMILARITY.
SQ SEQUENCE 130 AA; 14342 MW; 251B20AEDC5729FF CRC64;

Query Match 77.2%; Score 465; DB 1; Length 130;
Best Local Similarity 98.8%; Pred. No. 5.6e-42;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 60
Db 26 GPETLCGAEVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 85
Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQ 86
Db 86 CAPLKPAAKARSVRAQRHTDMPKTKYQ 111

RESULT 6
IGF1_HUMAN
ID IGF1_HUMAN STANDARD; PRT; 153 AA.
OX P01343;
DT 21-JUL-1986 (Rel. 01, Created)
```

DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin C).
GN IGF1 OR IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=86168194; PubMed=2937782;
RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
RT "Organization and sequence of the human insulin-like growth factor I
RT gene. Alternative RNA processing produces two insulin-like growth
RT factor I precursor peptides.";
RL J. Biol. Chem. 261:4828-4832(1986).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=84068210; PubMed=6358902;
RA Jansen M., van Schaik F.M.A., Ricker A.T., Bullock B., Woods D.E.,
RT Gabbay K.H., Nussbaum A.L., Sussenbach J.S., van den Brande J.L.;
RT "Sequence of cDNA encoding human insulin-like growth factor I
RT precursor.";
RL Nature 306:609-611(1983).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108910; PubMed=2935423;
RA le Bouc Y., Dreyer D., Jaeger F., Binoux M., Sondermeyer P.;
RT "Complete characterization of the human IGF-I nucleotide sequence
RT isolated from a newly constructed adult liver cDNA library.";
RL FEBS Lett. 196:108-112(1986).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=86108862; PubMed=3002851;
RA de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M.,
RA van Ommen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
RT "Organization of the human genes for insulin-like growth factors I
RT and II.";
RL FEBS Lett. 195:179-184(1986).
RN [5]
RP SEQUENCE FROM N.A.
RX MEDLINE=91207342; PubMed=2018498;
RA Steenbergh P.H., Koonen-Reemst A.M.C.B., Cleutjens C.B.J.M.,
RA Sussenbach J.S.;
RT "Complete nucleotide sequence of the high molecular weight human
RT IGF-I mRNA.";
RL Biochem. Biophys. Res. Commun. 175:507-514(1991).
RN [6]
RP SEQUENCE FROM N.A.
RX MEDLINE=92186627; PubMed=1372070;
RA Sandberg Nordqvist A.C., Stahlbom P.A., Lake M., Sara V.R.;
RT "Characterization of two cDNAs encoding insulin-like growth factor I
RT (IGF-1) in the human fetal brain.";
RL Brain Res. Mol. Brain Res. 12:275-277(1992).
RN [7]
RP SEQUENCE OF 24-50 AND 119-153 FROM N.A.
RX MEDLINE=84295593; PubMed=6382022;
RA Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
RT "Insulin-like growth factor II precursor gene organization in
RT relation to insulin gene family.";
RL Nature 310:777-781(1984).
RN [8]
RP SEQUENCE OF 49-118.
RX MEDLINE=78130171; PubMed=632300;
RA Rinderknecht E., Humbel R.E.;
RT "The amino acid sequence of human insulin-like growth factor I and
RT its structural homology with proinsulin.";
RL J. Biol. Chem. 253:2769-2776(1978).
RN [9]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=83210259; PubMed=6189745;

RA Blundell T.L., Bedarkar S., Humbel R.E.;
RT "Tertiary structures, receptor binding, and antigenicity of
RT insulin-like growth factors.";
RL Fed. Proc. 42:2592-2597(1983).
RN [10]
RP STRUCTURE BY NMR.
RX MEDLINE=91242464; PubMed=2036417;
RA Cooke R.M., Harvey T.S., Campbell I.D.;
RT "Solution structure of human insulin-like growth factor 1: a nuclear
RT magnetic resonance and restrained molecular dynamics study.";
RL Biochemistry 30:5484-5491(1991).
RN [11]
RP STRUCTURE BY NMR.
RX MEDLINE=92316903; PubMed=1319992;
RA Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M.,
RA Yasuda T., Kobayashi Y.;
RT "1H-NMR assignment and secondary structure of human insulin-like
RT growth factor-I (IGF-I) in solution.";
RL J. Biochem. 111:529-536(1992).
RN [12]
RP DISULFIDE BONDS.
RX MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
RT (IGFs) synthesized by recombinant DNA technology.";
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -|- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -|- SUBCELLULAR LOCATION: Secreted.
CC -|- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-1A AND IGF-1B ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC
DR EMBL; M14156; AAA52538.1; -
DR EMBL; M12659; AAA52538.1; JOINED.
DR EMBL; M14153; AAA52538.1; JOINED.
DR EMBL; M14154; AAA52538.1; JOINED.
DR EMBL; X00173; CAA24998.1; -
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; M27544; AAA52787.1; -
DR EMBL; X03420; CAA27152.1; -
DR EMBL; X03421; CAA27153.1; -
DR EMBL; X03422; CAA27154.1; -
DR EMBL; X57025; CAA40342.1; -
DR EMBL; X56773; CAA40092.1; -
DR PIR; A01610; IGHU1.
DR PIR; A23614; A23614.
DR PIR; A23622; A23622.
DR PIR; S30519; S30519.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; 147440; -
DR MIM; 265850; -
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal.
FT SIGNAL 1 21

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FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 63
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 6.7e-42;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
DB 49 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 108
QY 61 CAPLPAKARSVRQHRHTDMPKTK 86
DB 109 CAPLPAKARSVRQHRHTDMPKTK 134

RESULT 7
IGFLCANFA
ID IGFLCANFA STANDARD; PRT; 122 AA.
AC P33712;
DT 01-FEB-1994 (Rel. 28, Created)
DT 01-FEB-1994 (Rel. 28, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment)
GN IGFI OR IGFA.
OS Canis familiaris (Dog).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Carnivora; Flissipedia; Canidae; Canis.
CC NCBI_TaxID=9615;
CC [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=93366192; PubMed=8359700;
RA Delafontaine P., Lou H., Harrison D.G., Bernstein K.E.;
RT "Sequence of a cDNA encoding dog insulin-like growth factor I.";
RL Gene 130:305-306(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
CC
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DR EMBL; L08254; -; NOT_ANNOTATED_CDS.
DR PIR; P06222; P06222.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1. Insulin_IGF_relaxin.
DR ProDom; PD001048; Insulin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT NON_TER 1
FT SIGNAL <1 19 BY SIMILARITY.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 122 E. PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
SQ SEQUENCE 122 AA; 13407 MW; 036A004DC44E7D75 CRC64;

Query Match 76.4%; Score 460; DB 1; Length 122;
Best Local Similarity 97.7%; Pred. No. 1.8e-41;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 60
DB 20 GPTTCGAEVLVALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDCCFRSCDLRLRLMY 79
QY 61 CAPLPAKARSVRQHRHTDMPKTK 86
DB 80 CAPLPAKARSVRQHRHTDMPKTK 105

RESULT 8
IGFI_PIG
ID IGFI_PIG STANDARD; PRT; 153 AA.
AC P16545;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFI.
OS Sus scrofa (Pig).
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
CC NCBI_TaxID=9823;
CC [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=90221822; PubMed=2326169;
RA Mueller M., Brem G.;
RT "Nucleotide sequence of porcine insulin-like growth factor. 1:5'
RT untranslated region, exons 1 and 2 and mRNA.";
RL Nucleic Acids Res. 18:364-364(1990).
RN [2]
RN SEQUENCE OF 20-153 FROM N.A.
RX MEDLINE=89096956; PubMed=3211153;
RA Tavakoli A., Simmen F.A., Simmen R.C.M.;
RT "Porcine insulin-like growth factor-I (pIGF-I): complementary
RT deoxyribonucleic acid cloning and uterine expression of messenger
RT ribonucleic acid encoding evolutionarily conserved IGF-I peptides.";
RL Mol. Endocrinol. 2:674-681(1988).
RN [3]
RN SEQUENCE OF 1-21 FROM N.A.
RC STRAIN-WHITE LANDRACE; TISSUE=Liver;
RX MEDLINE=94128209; PubMed=8297476;
RA Weller P.A., Dickson M.C., Huskisson N.S., Dauncey M.J., Buttery P.J.,
RA Gilmore R.S.;
RT "The porcine insulin-like growth factor-I gene: characterization and
RT expression of alternate transcription sites.";
RL J. Mol. Endocrinol. 11:201-211(1993).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
```


adult sheep serum.";
Biochim. Biophys. Acta 997:27-35(1989).
-!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
-!- SUBCELLULAR LOCATION: Secreted.
-!- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE
PRODUCED BY ALTERNATIVE SPLICING
-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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EMBL; M30653; AAA80532.1; -;
EMBL; M30653; AAA80533.1; -;
EMBL; M31734; AAA80535.1; -;
EMBL; M31734; AAA80536.1; -;
EMBL; M31736; AAA31545.1; -;
EMBL; M31735; AAA31546.1; -;
EMBL; M31735; AAA31547.1; -;
EMBL; X69472; CAA49230.1; -;
EMBL; X69473; CAA49230.1; JOINED.
EMBL; X69474; CAA49230.1; JOINED.
EMBL; X69475; CAA49230.1; JOINED.
EMBL; X69472; CAA49231.1; -;
EMBL; X69473; CAA49231.1; JOINED.
EMBL; X69474; CAA49231.1; JOINED.
EMBL; X69475; CAA49231.1; JOINED.
EMBL; X69473; CAA49232.1; -;
EMBL; X69474; CAA49232.1; JOINED.
EMBL; X69475; CAA49232.1; JOINED.
EMBL; M89787; AAA31544.1; -;
PIR; A33390; A33390.
PIR; B33390; B33390.
PIR; S07198; S07198.
PIR; S07965; S07965.
HSSP; P05019; IGF1.
InterPro; IPR000739; Insulin_IGF_relaxin.
Pfam; PF00049; Insulin; 1.
PRINTS; PR00276; INSULIN.
PRINTS; PR00277; INSULIN.
ProDom; PD001048; Insulin_IGF_relaxin; 1.
SMART; SM00078; IIGF; 1.
PROSITE; PS00262; INSULIN; 1.
Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT SIGNAL 1 ?
FT PROPEP ? 49
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 79 90 C.
FT DOMAIN 91 111 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
FT VARSPIC 1 21 MGKISSLEPTQLKCCFCDFLK -> MVTPT (IN
ISOFORM C).
FT VARSPIC 1 34 MISSING (IN ISOFORM A).
FT CONFLICT 57 57 A -> V (IN REF. 4).
SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 75.1%; Score 452; DB 1; Length 154;
Best Local Similarity 96.5%; Pred. No. 1.5e-40;
Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||

Db 50 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 109
QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86
||||| :||||| :||||| :||
Db 110 CAPLKAASARSVRAQRHTDMPKAK 135

RESULT 12
IGFA_MOUSE STANDARD; PRT; 127 AA.
ID IGFA_MOUSE
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxID-10090;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
growth factor I precursors."
RL Nucleic Acids Res. 14:7873-7882(1986).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE)
AND ISOFORM IGF-IB (AC P05018); ARE PRODUCED BY ALTERNATIVE
SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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EMBL; X04480; CAA28168.1; -;
PIR; A25540; A25540.
DR HSSP; P05019; IGF1.
DR MGD; MGI:96432; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 22
FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 23 51 B.
FT DOMAIN 52 63 C.
FT DOMAIN 64 84 A.
FT DOMAIN 85 92 D.
FT DOMAIN 93 127 E PEPTIDE.
FT PROPEP 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;

Query Match 74.8%; Score 450; DB 1; Length 127;
Best Local Similarity 95.3%; Pred. No. 2e-40;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPTTLCAGELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
DB 23 GPTTLCAGELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 82
QY 61 CAPLKPAAKARSVRAQRHTDMPKTOK 86
DB 83 CAPLKPAAKARSVRAQRHTDMPKTOK 108

RESULT 13
IGFA_RAT
ID IGFA_RAT STANDARD; PRT; 153 AA.
AC F08025;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DE 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
[1]
SEQUENCE FROM N.A.
RX MEDLINE=8722423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
SEQUENCE FROM N.A.
RX MEDLINE=88003970; PubMed=3652906;
RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA Hoyt E.C., Lund P.K.;
RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT I precursor.";
RL DNA 6:325-330(1987).
RN [3]
SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat
RT insulin-like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).
RN [4]
SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [5]
SEQUENCE OF 46-153 FROM N.A.
RX MEDLINE=87246437; PubMed=3595538;
RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT "Identification, characterization, and regulation of a rat
RT complementary deoxyribonucleic acid which encodes insulin-like growth
RT factor-I.";
RL Endocrinology 121:684-691(1987).
RN [6]
SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapf J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A

CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE) AND
CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
CC EMBL; X06043; CAA29436.1; -
DR EMBL; M15651; AAA41215.1; -
DR EMBL; M15647; AAA41215.1; JOINED.
DR EMBL; M15648; AAA41215.1; JOINED.
DR EMBL; M15649; AAA41215.1; JOINED.
DR EMBL; M17714; AAA41227.1; -
DR EMBL; M17335; AAA41386.1; ALT_INIT.
DR EMBL; M15481; AAA41387.1; ALT_INIT.
DR PIR; A27849; A27849.
DR PIR; JH0133; JH0133.
DR PIR; B27804; B27804.
DR PIR; A32857; A32857.
DR PIR; A28504; A28504.
DR HSSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINB.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 ?
FT PROPEP 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL->VRC (IN REF. 4).
SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;
Query Match 74.3%; Score 447; DB 1; Length 153;
Best Local Similarity 94.2%; Pred. No. 5,1e-40;
Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
QY 1 GPTTLCAGELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60
DB 49 GPTTLCAGELVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108
QY 61 CAPLKPAAKARSVRAQRHTDMPKTOK 86
DB 109 CAPLKPAAKARSVRAQRHTDMPKTOK 134
RESULT 14
IGF1_COTJA
ID IGF1_COTJA STANDARD; PRT; 124 AA.
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin)
DE (Fragment).
GN IGF1.

OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Coturnix.
OX NCBI_TaxID=93934;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=95187621; PubMed=7881819;
RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
RA Noguchi T.;
RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
RT Japanese quail (Coturnix coturnix japonica): changes during growth
RT and development or after estrogen administration.";
RL Comp. Biochem. Physiol. 109C:191-204 (1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC
CC EMBL; S75247; -; NOT_ANNOTATED_CDS.
CC HSP; P05019; IGF1.
CC InterPro: IPR000739; Insulin_IGF_relaxin.
CC Pfam: PF00049; Insulin; 1.
CC ProDom: PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma.
FT NON_TER 1
FT PROPEP <1 19 POTENTIAL.
FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 20 48 B.
FT DOMAIN 49 60 C.
FT DOMAIN 61 81 A.
FT DOMAIN 82 89 D.
FT PROPEP 90 124 E PEPTIDE.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 37 80 BY SIMILARITY.
FT DISULFID 66 71 BY SIMILARITY.
FT SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;
Query Match 69.6%; Score 419; DB 1; Length 124;
Best Local Similarity 88.4%; Pred. No. 3.5e-37;
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
Db 20 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRRLHHKGIIVDECCFQSCDLRLRLMY 79
QY 61 CAPLPKPAKARSVRAQRHTDMPKTK 86
Db 80 CAPIPKPKSARSVRAQRHTDMPKAK 105
RESULT 15
IGFL_CHICK
ID IGFL_CHICK STANDARD; PRT; 153 AA.
AC P18254;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-NOV-1990 (Rel. 16, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFI.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=90190648; PubMed=2628728;
RA Kajimoto Y., Rotwein P.;
RT "Structure and expression of a chicken insulin-like growth factor I
RT precursor.";
RL Mol. Endocrinol. 3:1907-1913(1989).
[2]
RP SEQUENCE OF 1-21 FROM N.A.
RX MEDLINE=91236750; PubMed=2033062;
RA Rotwein P., Kajimoto Y.;
RT "Structure of the chicken insulin-like growth factor I gene reveals
RT conserved promoter elements.";
RL J. Biol. Chem. 266:9724-9731(1991).
[3]
RP SEQUENCE OF 49-118
RX MEDLINE=91106695; PubMed=2272467;
RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
RA McMurtry J.P., Wallace J.C.;
RT "Chicken insulin-like growth factor-I: amino acid sequence,
RT radioimmunoassay, and plasma levels between strains and during
RT growth.";
RL Gen. Comp. Endocrinol. 79:459-468(1990).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC or send an email to license@isb-sib.ch).
CC
CC EMBL; M32791; AAA48828.1; -;
CC EMBL; M74176; AAA48829.1; -;
CC PIR; A41399; A41399.
CC HSP; P05019; IGF1.
CC InterPro: IPR000739; Insulin_IGF_relaxin.
CC Pfam: PF00049; Insulin; 1.
CC PRINTS; PR00276; INSULINA.
CC PRINTS; PR00277; INSULINB.
CC ProDom: PD001048; Insulin_IGF_relaxin; 1.
CC SMART; SM00078; IGF; 1.
CC PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal.
FT SIGNAL 1 ?
FT PROPEP 7 48 INSULIN-LIKE GROWTH FACTOR I.
FT CHAIN 49 118 B.
FT DOMAIN 49 77 C.
FT DOMAIN 78 89 A.
FT DOMAIN 90 110 D.
FT DOMAIN 111 118 E.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT SEQUENCE 153 AA; 17267 MW; AAE13FDED13EE2F8 CRC64;
Query Match 69.6%; Score 419; DB 1; Length 153;
Best Local Similarity 88.4%; Pred. No. 4.4e-37;
Matches 76; Conservative 4; Mismatches 6; Indels 0; Gaps 0;
QY 1 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRAPQGTIVDECCFRSCDLRLRLMY 60
Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTGYGSSRRRLHHKGIIVDECCFQSCDLRLRLMY 108

QY 61 CAPLKPAKAARSYRAQRHTDMPKTOK 86
| | | | | : | | | | | | | | | | | |
Db 109 CAPIKPPKSARSYRAQRHTDMPKAQK 134

Search completed: October 25, 2002, 15:57:35
Job time : 6.68675 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run On: October 25, 2002, 15:53:12 ; Search time 20.7289 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602

Sequence: 1 GPETLGAELVDALQFVCGD.....TNKKMKSORRKSGSTFEHKK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

ched: 562222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL_l9:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phase:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	564.5	93.8	139	4 Q13429	Q13429 homo sapien
2	465	77.2	130	4 Q9NP10	Q9NP10 homo sapien
3	465	77.2	137	4 Q14620	Q14620 homo sapien
4	462	76.7	139	6 P79167	P79167 equus caball
5	460	76.4	133	6 Q9N1C1	Q9N1C1 bos taurus
6	447	74.3	127	11 P97899	P97899 rattus sp.
7	419	69.6	153	13 Q93380	Q93380 meleagris g
8	404	67.1	161	13 Q91230	Q91230 oncorhynch
9	403	66.9	178	13 Q91B10	Q91B10 cyprinus ca
10	402	66.8	145	13 Q91475	Q91475 salmo salar
11	402	66.8	155	13 Q91162	Q91162 oncorhynch
12	402	66.8	188	13 Q91365	Q91365 oncorhynch
13	402	66.8	188	13 P81268	P81268 oncorhynch
14	398	66.1	149	13 Q91231	Q91231 oncorhynch
15	396	65.8	116	13 Q91161	Q91161 oncorhynch
16	395	65.6	117	13 Q91476	Q91476 salmo salar

17	388	64.5	161	13 Q90VV9	Q90VV9 brachydanio
18	384.5	63.9	186	13 Q93527	Q93527 paralichthy
19	384	63.8	159	13 Q93527	Q93527 paralichthy
20	383	63.6	161	13 Q9PWK2	Q9PWK2 carassius a
21	380	63.1	117	13 Q91914	Q91914 ctenopharyn
22	380	63.1	161	13 Q9Y182	Q9Y182 carassius a
23	379	63.0	161	13 Q98SR6	Q98SR6 megalobrama
24	377.5	62.7	186	13 Q9PSK5	Q9PSK5 paralichthy
25	377	62.6	182	13 P79824	P79824 oreochromis
26	377	62.6	182	13 Q73720	Q73720 oreochromis
27	376.5	62.5	182	13 Q42289	Q42289 oreochromis
28	376.5	62.5	185	13 Q57436	Q57436 paralichthy
29	363	60.3	185	13 Q9Y157	Q9Y157 acanthopagr
30	358	59.5	66	6 Q9N156	Q9N156 capreolus c
31	354.5	58.9	184	13 Q42336	Q42336 myoxocephal
32	336.5	55.9	69	6 Q02807	Q02807 bubalus bub
33	305	50.7	57	6 Q28236	Q28236 cervus elap
34	301.5	50.1	126	13 Q91442	Q91442 squalus aca
35	278	46.2	62	13 Q91AA0	Q91AA0 carassius a
36	271.5	45.1	215	13 Q73721	Q73721 tilapia sp.
37	268.5	44.6	215	13 Q42429	Q42429 lates calca
38	261	43.4	207	13 Q90XD0	Q90XD0 cyprinus ca
39	254.5	42.3	187	13 Q57687	Q57687 taenopygia
40	246.5	40.9	187	13 P79890	P79890 gallus gall
41	239.5	39.8	217	13 Q90WW4	Q90WW4 xenopus lae
42	239	39.7	197	13 Q9PUD0	Q9PUD0 brachydanio
43	231	38.4	149	6 Q9MYX4	Q9MYX4 bos indicus
44	230.5	38.3	154	11 Q63265	Q63265 rattus norv
45	227.5	37.8	215	13 Q73722	Q73722 oreochromis

ALIGNMENTS

RESULT 1

Q13429 ID Q13429 PRELIMINARY; PRT; 139 AA.
AC Q13429
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).
GN IGF-I.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-I
transcript with hepatic tissue expression that diverts away from the
mitogenic IGF1 peptide."
RT Endocrinology 136:1939-1944(1995).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U00870; AAA96152.1; -.
DR HSSP; P01343; 1GF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF000049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM000078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER 1
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 93.8%; Score 564.5; DB 4; Length 139;

Best Local Similarity 95.5%; Pred. No. 4e-61; 3; Indels 1; Gaps 1;

Matches 106; Conservative 1; Mismatches 1; Gaps 1;

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QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 30 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 89
|||||
QY 61 CAPLPAKARSVRAQRHTDMPKTKYQPPSTNKKMKSORRKGSTFEHK 111
|||||
Db 90 CAPLPAKARSVRAQRHTDMPKTKYQPPSTNKKTKSQ-RRKGSTFEERK 139
|||||

RESULT 2
QNP10 PRELIMINARY; PRT; 130 AA.
AC QNP10;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE IGF1 PROTEIN PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: Isolation of
complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248(1987).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL. 1 25 POTENTIAL.
FT CHAIN 26 95 POTENTIAL.
SQ SEQUENCE 130 AA; 14406 MW; 970FBAECFA0352D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 130;
Best Local Similarity 98.8%; Pred. No. 5,2e-49;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 26 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 85
|||||
QY 61 CAPLPAKARSVRAQRHTDMPKTKQ 86
|||||
Db 86 CAPLPAKARSVRAQRHTDMPKTKQ 111
|||||

RESULT 3
Q14620 PRELIMINARY; PRT; 137 AA.
AC Q14620;
DT 01-NOV-1996 (Tremblrel. 01, Created)
DT 01-NOV-1996 (Tremblrel. 01, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR.
GN IGF1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
[1]
RP SEQUENCE FROM N.A.
```

```
RX MEDLINE=91187000; PubMed=2082190;
RA Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
in normal and tumor cells.";
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -|- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AAA52789.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PROSITE; PS00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL. 1 32 POTENTIAL.
FT CHAIN 33 137 INSULIN-LIKE GROWTH FACTOR I.
SQ SEQUENCE 137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;

Query Match 77.2%; Score 465; DB 4; Length 137;
Best Local Similarity 98.8%; Pred. No. 5,5e-49;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 33 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY 92
|||||
QY 61 CAPLPAKARSVRAQRHTDMPKTKQ 86
|||||
Db 93 CAPLPAKARSVRAQRHTDMPKTKQ 118
|||||

RESULT 4
P79167 PRELIMINARY; PRT; 139 AA.
AC P79167;
DT 01-MAY-1997 (Tremblrel. 03, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C)
DE (FRAGMENTS).
GN IGF1.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
NCBI_TaxID=9796;
[1]
RP SEQUENCE OF 1-122 FROM N.A.
TX TISSUE=LIVER;
RX MEDLINE=97013467; PubMed=8860303;
RA Otte K., Rozell B., Gessbo A., Engstrom W.;
RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA
and its expression in fetal and adult tissues.";
RL Gen. Comp. Endocrinol. 102:11-15(1996).
[2]
RP SEQUENCE OF 123-139 FROM N.A.
RA Nixon A.J., Toland B.D., Sandell L.J.;
RX Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -|- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -|- SUBCELLULAR LOCATION: SECRETED.
CC -|- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
(BY SIMILARITY).
CC -|- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U28070; AAA68952.1; -.
DR EMBL; U85271; AAB47484.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
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DR PRINTS: PR00276; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; UNKNOWN_1.
 KW Insulin family; Growth factor; Signal.
 FT SIGNAL 1 ?
 FT PROPEP ? 48 BY SIMILARITY.
 FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
 FT DOMAIN 49 77 B.
 FT DOMAIN 78 89 C.
 FT DOMAIN 90 110 A.
 FT DOMAIN 111 118 D.
 FT PROPEP 119 >139 E PEPTIDE.
 FT NON_CONS 122 123
 FT DISULFID 54 96 BY SIMILARITY.
 FT DISULFID 66 109 BY SIMILARITY.
 FT DISULFID 95 100 BY SIMILARITY.
 FT NON_TER 139 139
 SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;
 Query Match 76.7%; Score 462; DB 6; Length 139;
 Best Local Similarity 85.4%; Pred. No. 1.3e-48;
 Matches 88; Conservative 1; Mismatches 2; Indels 12; Gaps 1;
 QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
 Db 49 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 108
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 103
 Db 109 CAPLKPAAKARSVR-----YQPPSINKTKLQRRK 139
 RESULT 5
 Q9NIC1 PRELIMINARY; PRT; 133 AA.
 AC Q9NIC1;
 DT 01-OCT-2000 (TREMBLrel. 15, Created)
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
 DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR I (FRAGMENT).
 GN IGF1.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
 Bovidae; Bovinae; Bos.
 NCBI_TaxID=9913;
 [1]
 RP SEQUENCE FROM N.A.
 RA Lien S., Karlsest A., Klemetsdal G., Vage D.I., Olsaker I.,
 RA Klungland H., Aasland M., Heringstad B., Ruane J., Gomez-Raya L.;
 RT "A primary screen of the bovine genome for quantitative trait loci
 RT affecting twinning rate."
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; AF210387; AAF72409.1;
 DR EMBL; AF210385; AAF72409.1; JOINED.
 DR EMBL; AF210386; AAF72409.1; JOINED.
 DR HSP; P01343; IGF1.
 DR InterPro; IPR000739; Insulin_IGF_relaxin.
 DR PRINTS; PR00276; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR NON_TER 133 AA; 14674 MW; A6991DBC75C103B CRC64;
 SEQUENCE 133 AA; 14674 MW; A6991DBC75C103B CRC64;
 Query Match 76.4%; Score 460; DB 6; Length 133;
 Best Local Similarity 97.7%; Pred. No. 2.2e-48;
 Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
 Db 29 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 88
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86
 Db 89 CAPLKPAAKARSVRAQRHTDMPKAK 114
 RESULT 6
 P97899 PRELIMINARY; PRT; 127 AA.
 AC P97899;
 DT 01-MAY-1997 (TREMBLrel. 03, Created)
 DT 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
 DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR I.
 OS Rattus sp.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OC NCBI_TaxID=10118;
 RN [1]
 RP PARTIAL SEQUENCE FROM N.A.
 RX MEDLINE=87222423; PubMed=3034909;
 RA Shinatsu A., Rotwein P.;
 RT "Mosaic evolution of the insulin-like growth factors."
 RL J. Biol. Chem. 262:7894-7900(1987).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91103966; PubMed=1368571;
 RA Kato H., Okoshi A., Miura Y., Noguchi T.;
 RT "A new cDNA clone relating to larger molecular species of rat insulin-
 RT like growth factor-I mRNA."
 RL Agric. Biol. Chem. 54:1599-1601(1990).
 CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 DR EMBL; D00698; BAA00604.1;
 DR HSP; P01343; IGF1.
 DR InterPro; IPR000739; Insulin_IGF_relaxin.
 DR Pfam; PF00049; Insulin; 1.
 DR PRINTS; PR00276; INSULIN.
 DR PRINTS; PR00277; INSULIN.
 DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 DR SMART; SM00078; IIGF; 1.
 DR PROSITE; PS00262; INSULIN; 1.
 FT CHAIN 23 92 POTENTIAL.
 SQ SEQUENCE 127 AA; 14106 MW; 104E126BFCFA5CB7 CRC64;
 Query Match 74.3%; Score 447; DB 11; Length 127;
 Best Local Similarity 94.2%; Pred. No. 7.9e-47;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 QY 1 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 60
 Db 23 GPETLCGAELVDALQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLEMY 82
 QY 61 CAPLKPAAKARSVRAQRHTDMPKTK 86
 Db 83 CAPLKPAAKARSVRAQRHTDMPKTK 108
 RESULT 7
 O93380 PRELIMINARY; PRT; 153 AA.
 ID O93380;
 AC O93380;
 DT 01-NOV-1998 (TREMBLrel. 08, Created)
 DT 01-NOV-1998 (TREMBLrel. 08, Last sequence update)
 DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
 DE INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
 GN IGF1.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

DR	SMART; SM00078; IIGF; 1.
DR	PROSITE; PS00262; INSULIN; 1.
SQ	SEQUENCE 161 AA; 17763 MW; A5A85D121377BF67 CRC64;
Query Match 67.1%; Score 404; DB 13; Length 161;	
Best Local Similarity 69.4%; Pred. No. 1.9e-41;	
Matches	77; Conservative 13; Mismatches 15; Indels 6; Gaps
Qy	1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLLEY 60 45 GPETLCGAELVDLTQLFCVGERGFYSKPPTYGPSSRRSHNRGITVDECFCQSCELRLLEY 104
Qy	61 CAPLKPAKAARSVRAORHTDMPTKYQPPESTN-----KNKKSQRRRKGST 106 : : : :
Dd	105 CAPVKGAARSVRAORHTDMPTPK-KPLSGNSHTSCKEVHQKNSRGNT 154 : : :
RESULT 9	
Q9TBIO	PRELIMINARY; PRT; 178 AA.
ID	Q9IBIO PRELIMINARY; PRT; 178 AA.
AC	Q9IBIO;
DT	01-OCT-2000 (TremBLrel. 15, Created)
DT	01-OCT-2000 (TremBLrel. 15, Last sequence update)
DT	01-DEC-2001 (TremBLrel. 19, Last annotation update)
DE	INSULIN-LIKE GROWTH FACTOR I SUBTYPE EA2.
DN	IGF-TA2.
OS	Cyprius carpio (Common carp).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Actinopterygii; Neopteriygii; Teleostei; Euteleostei; Ostariophysi;
OC	Cypriniformes; Cyprindae; Cyprinus.
OX	NCBI_TaxID=7962;
RN	[1]
RP	SEQUENCE FROM N.A.
RC	TISSUE=LIVER:
RX	MEDLINE=96241923; PubMed=8680527;
RA	Liang Y.H.; Cheng C.H., Chan K.M.;
RT	"Insulin-like growth factor IEA2 is the predominantly expressed form
RT	of IGF in common carp (Cyprinus carpio).";
RMol.	Mar. Biol. Biotechnol. 5:145-152(1996).
RLC	-I- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC	I- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR	EWBL; S82374; AAB37702.2; -
DR	HSP; P01343; IGFI.
DR	InterPro; IPR000739; Insulin_IGF_relaxin.
DR	Pfam; PF00049; Insulin; 1.
DR	PRINTS; PR00277; INSULINE.
DR	ProDom; PD001048; Insulin_IGF_relxain; 1.
DR	SMART; SM00078; IIGF; 1.
DR	PROSITE; PS00262; INSULIN; 1.
SQ	SEQUENCE 178 AA; 19687 MW; 7075A34FF379C459 CRC64;
Query Match 66.9%; Score 403; DB 13; Length 178;	
Best Local Similarity 68.2%; Pred. No. 2.8e-41;	
Matches	75; Conservative 12; Mismatches 19; Indels 4; Gaps
Qy	1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIIVDECCFRSCDLRLLEY 60 62 GPETLCGAELVDTLQFVCGDRGFYSKPPTYGPSSRRSHNRGITVDECFCQSCELRLLEY 121
Qy	61 CAPLKPAKAARSVRAORHTDMPTKYQPPESTN-----STNNKKKSQRKRKGST 106 : : : :
Dd	122 CAPVKEGKTFSRVRAORHTDSPETAKEKLPGQSHSYKEVHQKNSRGNT 171 : : :
RESULT 10	
Q91475	PRELIMINARY; PRT; 145 AA.
ID	Q91475 PRELIMINARY; PRT; 145 AA.
AC	Q91475;
DT	01-NOV-1996 (TremBLrel. 01, Created)
DT	01-NOV-1996 (TremBLrel. 01, Last sequence update)
DT	01-DEC-2001 (TremBLrel. 19, Last annotation update)
DE	INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS	Salmo salar (Atlantic salmon).

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CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81913; AAA49413.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF000049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Signal.
DR FT NON-TER 1 1
DR SIGNAL <1 18 POTENTIAL.
DR FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
DR FT CONFLICT 73 73 R -> X (IN REF. 1).
DR FT NON-TER 155 155
DR SEQUENCE 155 AA; 15968 MW; 022FD3CA39CA3160 CRC64;
SQ
Query Match 66.8%; Score 402; DB 13; Length 155;
Best Local Similarity 73.3%; Pred. No. 3.le-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0
QY 1 GPETLCGAELVDALQFCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
DB 19 GPETLCGAELVDLTQFCGGERGFYFSKPTGYGSSRRHNGRIVDECCFQSCELRLLEY 78
QY 61 CAPLKPAKAARSVRAQRHTDMPKTKYQPPSTNKKMKSQRR 101
DB 79 CAPVSKGAARSVRAQRHTDMPRTPKVSTAVQNVDRGTERR 119
RESULT 12
Q91965 PRELIMINARY; PRT; 188 AA.
AC Q91965;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (SEP-1994) to the EMBL/GenBank/DBJ databases.
CC -1- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY). FAMILY.
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15960; AAA67266.1; -.
DR EMBL; U14536; AAA67263.1; -.
DR HSSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF000049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.

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DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFRSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCELRLRLRY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKKSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145

RESULT 13
P81268 PRELIMINARY; PRT; 188 AA.
AC P81268;
DT 01-AUG-1998 (TREMBlrel. 07, Created)
DT 01-AUG-1998 (TREMBlrel. 07, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.1 PRECURSOR (IGF-I.1) (SOMATOMEDIN).
GN IGF-I.1.
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8018;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94296559; PubMed=8024699;
RA Kavan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA Roberts C.T. Jr., Leroith D.;
RT "Isolation of a second nonallelic insulin-like growth factor I gene
RT from the salmon genome.";
RL DNA Cell Biol. 13:555-559(1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SURCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: AF063216; AAC18833.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Multigene family; Signal.
FT SIGNAL 1 ?
FT PROPEP 45 ?
FT CHAIN 45 114 BY SIMILARITY.
FT DOMAIN 45 73 B.
FT DOMAIN 74 85 C.
FT DOMAIN 86 106 A.
FT DOMAIN 107 114 D.
FT PROPEP 115 188 E PEPTIDE.
FT DISULFID 50 92 BY SIMILARITY.
FT DISULFID 62 105 BY SIMILARITY.
FT DISULFID 91 96 BY SIMILARITY.
SQ SEQUENCE 188 AA; 20792 MW; FACEB6D05E0F24B8 CRC64;

Query Match 66.8%; Score 402; DB 13; Length 188;
Best Local Similarity 73.3%; Pred. No. 3.9e-41;
Matches 74; Conservative 9; Mismatches 18; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFRSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCELRLRLRY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKKSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145

RESULT 14
Q91231 PRELIMINARY; PRT; 149 AA.
AC Q91231;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SURCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.1%; Score 398; DB 13; Length 149;
Best Local Similarity 69.2%; Pred. No. 9.2e-41;
Matches 74; Conservative 11; Mismatches 18; Indels 4; Gaps 1;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFRSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCELRLRLRY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKKSORRKGSTF 107
DB 105 CAPVSKGAARSVRAQRHTDMPRT----PKEVHQKNSSRGNTGGRNY 147

RESULT 15
Q91161 PRELIMINARY; PRT; 116 AA.
AC Q91161;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8019;
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DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCELRLRLRY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKKSORR 101
DB 105 CAPVSKGAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145

RESULT 14
Q91231 PRELIMINARY; PRT; 149 AA.
AC Q91231;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN IGF-I.
OS Oncorhynchus tshawytscha (Chinook salmon) (King salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=74940;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RX MEDLINE=93247592; PubMed=7683374;
RA Wallis A.E., Devlin R.H.;
RT "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=BIG QUALICUM RIVER, B.C.; TISSUE=LIVER;
RA Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SURCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL: U15962; AAA67268.1; -.
DR HSSP: P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS: PR00276; INSULINA.
DR PRINTS: PR00277; INSULINB.
DR ProDom: PD001048; Insulin_IGF_relaxin; 1.
DR SMART: SM00078; ILGF; 1.
DR PROSITE: PS00262; INSULIN; 1.
SQ SEQUENCE 149 AA; 16507 MW; 9AC8F072762D2AA0 CRC64;

Query Match 66.1%; Score 398; DB 13; Length 149;
Best Local Similarity 69.2%; Pred. No. 9.2e-41;
Matches 74; Conservative 11; Mismatches 18; Indels 4; Gaps 1;

QY 1 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPOTGIVDECCFRSCDLRLRLRY 60
DB 45 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRSHNRGIVDECCFQSCELRLRLRY 104
QY 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNKKMKKSORRKGSTF 107
DB 105 CAPVSKGAARSVRAQRHTDMPRT----PKEVHQKNSSRGNTGGRNY 147

RESULT 15
Q91161 PRELIMINARY; PRT; 116 AA.
AC Q91161;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBlrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
OX NCBI_TaxID=8019;
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RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=90190659; PubMed=2628735;
RA Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
FT insulin-like growth factor I mRNA.";
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
FT growth factor I prohormones in salmon.";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
EMBL: M81911; AAB59947.1; -.
HSP; P01343; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 1
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT NON_TER 116 116
FT NON_TER 116 116
SQ SEQUENCE 116 AA; 12697 MW; C5F378915179D89D CRC64;

Query Match 65.8%; Score 396; DB 13; Length 116;
Best Local Similarity 70.8%; Pred No. 1.2e-40;
Matches 75; Conservative 11; Mismatches 12; Indels 8; Gaps 2;

QY 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 60
DB 19 GPETLCGAEVLDTLQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRLRLMY 78
QY 61 CAPLPAKAAARSVRAQRHTDMEKTKYQPPSTNKKMKSORRRKGST 106
DB 79 CAPVKSQKAAARSVRAQRHTDMEKTKYQPPSTNKKMKSORRRKGST 116

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Search completed: October 25, 2002, 15:58:45
Job time : 20.7289 secs

* 09/852,261

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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:02 ; Search time 12.7048 Seconds
(without alignments)
839.517 Million cell updates/sec

Title: US-09-852-261-6
Perfect score: 602
Sequence: 1 GPETLCGAEIVDALQFVCGD.....TNKKMSQRRRKGGSTFEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Archived: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_71:.*
1: pir1:.*
2: pir2:.*
3: pir3:.*
4: pir4:.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
1	539	89.5	159	2 A26859	insulin-like growth
2	536	89.0	195	1 IGH01B	insulin-like growth
3	521	86.5	133	2 A40912	insulin-like growth
4	508	84.4	181	2 A27804	insulin-like growth
5	485	77.2	137	1 IGP1	insulin-like growth
6	465	77.2	137	2 A36552	insulin-like growth
7	452	77.2	153	1 IGH01	insulin-like growth
8	460	76.4	122	2 PN0622	insulin-like growth
9	460	76.4	153	1 IGB01	insulin-like growth
10	460	76.4	153	2 S12825	insulin-like growth
11	456	75.7	154	2 JC2483	insulin-like growth
12	452	75.1	138	2 S22878	insulin-like growth
13	452	75.1	138	2 A33390	insulin-like growth
14	450	74.8	127	2 A25540	insulin-like growth
15	447	74.3	153	2 B27804	insulin-like growth
16	429	71.3	127	2 B40912	insulin-like growth
17	419	69.6	153	2 A41399	insulin-like growth
18	412.5	68.5	153	2 A36079	insulin-like growth
19	404	67.1	161	2 C54270	insulin-like growth
20	402	66.8	155	2 C44012	insulin-like growth
21	402	66.8	176	2 A41396	insulin-like growth
22	402	66.8	188	2 A54270	insulin-like growth
23	402	66.8	188	2 B54270	insulin-like growth
24	398	66.1	149	2 D54270	insulin-like growth
25	398	66.1	176	2 A46244	insulin-like growth
26	301.5	50.1	126	2 S66485	insulin-like growth
27	298	49.5	193	2 A53697	insulin-like growth
28	272	45.2	214	2 B46244	insulin-like growth
29	246.5	40.9	187	2 T10897	insulin-like growth

30	242	40.2	179	2 S04858	insulin-like growth
31	236	39.2	155	1 IGB02	insulin-like growth
32	232	38.5	180	1 IGH02	insulin-like growth
33	231	38.4	128	2 I57671	insulin-like growth
34	229	38.0	139	2 A38612	insulin-like growth
35	229	38.0	181	2 B60738	insulin-like growth
36	227	37.7	180	2 A24913	insulin-like growth
37	226.5	37.6	183	2 S02423	insulin-like growth
38	225	37.4	93	2 I53642	insulin-like growth
39	224.5	37.3	180	1 IGR2	insulin-like growth
40	220.5	36.6	183	2 I67610	insulin-like growth
41	213.5	35.5	79	2 I51240	insulin-like growth
42	209.5	34.8	210	2 S66484	insulin-like growth
43	197	32.7	66	2 A60740	insulin-like growth
44	175	29.1	44	2 A34049	insulin-like growth
45	159.5	26.5	50	1 INFIS	insulin - shorthor

ALIGNMENTS

RESULT 1

A26859
insulin-like growth factor IB precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26859
R:Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A:Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the
A:Reference number: A26859; MUID:88015572
A:Accession: A26859
A:Molecule type: mRNA
A:Residues: 1-159 <SHI>
A:Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor

Query Match 89.5%; Score 539; DB 2; Length 159;
Best Local Similarity 90.1%; Pred. No. 2.2e-48;
Matches 100; Conservative 3; Mismatches 8; Indels 0; Gaps 0;

Qy	1	GPETLCGAEIVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFFSCDLRLLEY 60
Db	49	GPETLCGAEIVDALQFVCGDGRGFYFNKPTGYGSSIRAPQTGIVDECCFFSCDLRLLEY 108
Qy	61	CAPLKPAKAARSVRAORHTDMPKTQYQPPSTNKKMSQRRRKGGSTFEEHK 111
Db	109	CAPLKPTKSARSRAORHTDMPKTQKSQPLSTHKKRKLQRRRKGGSTLEEKK 159

RESULT 2

IGH01B
insulin-like growth factor I precursor, splice form B [validated] - human
N:Alternate names: IGF-IB; somatomedin C
N:Contains: insulin-like growth factor IB-E1 amide
C:Species: Homo sapiens (man)
C>Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A01611; S30540; B48960; A42664
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. Al
A:Reference number: A92581; MUID:86168194
A:Accession: A01611
A:Molecule type: DNA
A:Residues: 1-195 <NOT>
A:Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R:Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A:Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
A:Reference number: A26181; MUID:86094355
A:Accession: A26181
A:Molecule type: mRNA

A:Residues: 1-195 <ROT2>
A:Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-1b.
A:Reference number: S30540
A:Accession: S30540
A:Molecule type: mRNA
A:Residues: 1-195 <SAN>
A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A:Reference number: A48960; MUID:93365440
A:Accession: B48960
A:Molecule type: mRNA
A:Residues: 1-195 <SA2>
A:Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence modified after extraction from NCBI
A:Note: the authors translated the codon CAG for residues 124 and 133 as Glu
A:Note: sequence extracted from NCBI backbone (NCBIN:133058)
Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitta,
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A:Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin-like
growth factor I precursor form, see PIR:IGHUL.
A:Reference number: A42664; MUID:92390398
A:Contents: annotation; IBE-1; amidated carboxyl end
C:Comment: For an alternative splice form, see PIR:IGHUL.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status predicted <MAT>
F:49-77/Domain: insulin chain B-like #status predicted <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:90-110/Domain: insulin chain A-like #status predicted <CHA>
F:111-118/Domain: D peptide #status predicted <CHD>
F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:151-172/Product: insulin-like growth factor IB-EI amide #status predicted <MA2>
F:54-66,66-109,95-100/Disulfide bonds: #status predicted
F:172/Modified site: amidated carboxyl end (Arg) (amide in mature form from following gl

Query Match 89.0%; Score 536; DB 1; Length 195;
Best Local Similarity 96.1%; Pred. No. 5.4e-48;
Matches 98; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||

Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNNKMKSQRR 102
|||||
109 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNNKMKSQRR 150
|||||

RESULT 3
A40912
Insulin-like growth factor I precursor form 1 - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: A40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonuc
c tissues
A:Reference number: A40912; MUID:88288198
A:Accession: A40912
A:Status: preliminary

A:Molecule type: mRNA
A:Residues: 1-133 <ROB>
A:Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C:Superfamily: insulin
Query Match 86.5%; Score 521; DB 2; Length 133;
Best Local Similarity 87.4%; Pred. No. 1.3e-46;
Matches 97; Conservative 3; Mismatches 11; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
23 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82
|||||

Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNNKMKSQRRRKGFEEHK 111
|||||
83 CVCRKPTKSARSIRAQRHTDMPKTKYQPPSTNNKMKSQRRRKGFEEHK 133
|||||

RESULT 4
A27804
Insulin-like growth factor I precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C:Accession: A27804; I65202
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
A:Reference number: A27804; MUID:87222423
A:Accession: A27804
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-181 <SHI>
A:Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R:Roberts, C.T.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A:Reference number: I52218; MUID:87298553
A:Accession: I65202
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-27 <RES>
A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C:Superfamily: insulin
C:Keywords: alternative splicing
Query Match 84.4%; Score 508; DB 2; Length 181;
Best Local Similarity 88.7%; Pred. No. 3.9e-45;
Matches 94; Conservative 4; Mismatches 8; Indels 0; Gaps 0;

Qy 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||||

Qy 61 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNNKMKSQRRRKGST 106
|||||
109 CAPLKPAAKARSVRAQRHTDMPKTKYQPPSTNNKMKSQRRRKGST 154
|||||

RESULT 5
IGGP1
Insulin-like growth factor I precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C:Accession: S12719
R:Bell, G.I.; Stampien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.
A:Reference number: S12719; MUID:90332447
A:Accession: S12719
A:Molecule type: mRNA
A:Residues: 1-137 <BEL>
A:Cross-references: EMBL:X52951
A:Note: it is uncertain whether Met-1 or Met-8 is the initiator

C:Comment: The insulin-like growth factors, isolated from plasma, are structurally and
C:Comment: For an alternative splice form, see PIR:ICHU1B.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status experimental <MAT>
F:49-77/Domain: insulin chain B-like #status experimental <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin chain A-like #status experimental <CHA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPRO>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 77.2%; Score 465; DB 1; Length 153;
Best Local Similarity 98.8%; Pred. No. 9,1e-41;
Matches 85; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||||
49 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
Db 109 CAPLPAKAAARSVRAQRHTDMPKTK 134

RESULT 8

PN0622
Insulin-like growth factor Ia precursor - dog (fragment)
C:Species: Canis lupus familiaris (dog)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C:Accession: PN0622
R:Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A:Reference number: PN0622; MUID:93366192
A:Accession: PN0622
A:Molecule type: mRNA
A:Residues: 1-122
C:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types, act
C:Genetics:
A:Gene: IGF1a
C:Superfamily: insulin
C:Keywords: growth factor
20-89/Product: Insulin-like growth factor Ia (fragment) #status predicted <MAT>

Query Match 76.4%; Score 460; DB 2; Length 122;
Best Local Similarity 97.7%; Pred. No. 2.4e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||||
20 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 79
|||

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
Db 80 CAPLPAKAAARSVRAQRHTDMPKTK 105

RESULT 9

IG01
Insulin-like growth factor Ia precursor - bovine (fragment)
N:Alternate names: IGF-I; somatomedin C
C:Species: Bos primigenius taurus (cattle)
C:Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C:Accession: S12672; A25623; S00465
R:Fotis, T.; Murphy, C.; Gannon, F.

Nucleic Acids Res. 18, 676, 1990
A:Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and I
A:Reference number: S12672; MUID:90175014
A:Accession: S12672
A:Molecule type: mRNA
A:Residues: 1-153 <FO>
A:Cross-references: EMBL:X15726; NID:g454; PIDN:CAA33746.1; PID:g455
A:Experimental source: liver
J. Biol. Chem. 261, 569-575, 1986
R:Honegger, A.; Humbel, R.E.
A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi
A:Reference number: A92585; MUID:86085881
A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.
Biochem. J. 251, 95-103, 1988
A:Title: Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences and biolo
A:Reference number: S00465; MUID:88268820
A:Accession: S00465
A:Molecule type: protein
A:Residues: 49-118 <PRA>

A:Experimental source: colostrum
A:Note: a form of IGF-I lacking the first three residues and possessing enhanced biol
C:Superfamily: insulin
C:Keywords: alternative splicing; colostrum; growth factor; plasma
F:1-20/Domain: signal sequence (fragment) #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor Ia (active) #status experimental <MAT>
F:49-77/Domain: insulin B chain-like #status experimental <DOB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin A chain-like #status experimental <DOA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CPR>
F:54-96,66-109,95-100/Disulfide bonds: #status predicted

Query Match 76.4%; Score 460; DB 1; Length 153;
Best Local Similarity 97.7%; Pred. No. 3e-40;
Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db |||||||
49 GPETLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108
|||

Qy 61 CAPLPAKAAARSVRAQRHTDMPKTK 86
Db 109 CAPLPAKAAARSVRAQRHTDMPKTK 134

RESULT 10

S12825
Insulin-like growth factor I precursor - pig,
N:Alternate names: somatomedin C
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999
C:Accession: S12825; S21488; A34938; A60738
R:Mueller, M.; Brem, G.
Nucleic Acids Res. 18, 364, 1990
A:Title: Nucleotide sequence of porcine insulin-like growth factor I: 5' untranslated
A:Reference number: S12825; MUID:90221822
A:Accession: S12825
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-153 <MUE>
A:Cross-references: EMBL:X52388
R:Dickson, M.C.; Huskisson, N.S.; Gilmour, R.S.
submitted to the EMBL Data Library, November 1989
A:Description: Porcine Insulin-like growth factor gene: sequence of exon and 5' non-c
A:Reference number: S21488
A:Accession: S21488
A:Molecule type: DNA
A:Residues: 1-21 <DIC>
A:Cross-references: EMBL:X17638; NID:g1995; PIDN:CAA35632.1; PID:g1996

R:Tavakkol, A.; Simmen, F.A.; Simmen, R.C.M.

Mol. Endocrinol. 2, 674-681, 1988

A:Title: Porcine insulin-like growth factor-I (pIGF-I): complementary deoxyribonucleic acid.

A:Reference number: A34938; MUID:89096956

A:Accession: A34938

A:Molecule type: mRNA

A:Residues: 'Y', 21-153 <NAV>

A:Cross-references: GB:M31175

R:Francis, G.L.; Owens, P.C.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.

J. Endocrinol. 122, 681-687, 1989

A:Title: Purification, amino acid sequences and assay cross-reactivities of porcine insulin.

A:Reference number: A60738; MUID:90039035

A:Accession: A60738

A:Molecule type: protein

A:Residues: 49-117, 'X' <PRA>

C:Genetics:

Introns: 21/3; 74/1

Superfamily: insulin

Keywords: growth factor

F:1-22/Domain: signal sequence #status predicted <SIG>

F:23-48/Domain: propeptide #status predicted <PRO>

F:49-153/Product: insulin-like growth factor IA #status experimental <MAT>

Query Match 76.4%; Score 460; DB 2; Length 153;

Best Local Similarity 97.7%; Pred. No. 3e-40; Mismatches 1; Indels 0; Gaps 0;

Matches 84; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

Db 49 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 108

Qy 61 CAPLPKAAARSVRAQRHTDMPKTK 86

Db 109 CAPLPKAAARSVRAQRHTDMPKTK 134

RESULT 11

JC2483

Insulin-like growth factor-I precursor - goat

C:Species: Capra aegagrus hircus (domestic goat)

C>Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999

C:Accession: JC2483

R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.

Biosci. Biotechnol. Biochem. 59, 87-92, 1995

A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF)

A:Reference number: JC2483; MUID:95201385

A:Accession: JC2483

A:Molecule type: mRNA

A:Residues: 1-154 <MIK>

A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119

C:Genetics:

Introns: 21/3; 75/1; 135/3

Superfamily: insulin

F:1-49/Domain: signal sequence #status predicted <SIG>

F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>

F:120-154/Region: E domain

Query Match 75.7%; Score 456; DB 2; Length 154;

Best Local Similarity 96.5%; Pred. No. 7.8e-40;

Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

Db 50 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 109

Qy 61 CAPLPKAAARSVRAQRHTDMPKTK 86

Db 110 CAPLPKAAARSVRAQRHTDMPKTK 135

RESULT 12

S22878

Insulin-like growth factor I precursor, splice form 1 - sheep

N:Alternate names: somatomedin C

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C>Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999

C:Accession: S22877; A33390; S07965; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression an

A:Reference number: S22877; MUID:91197361

A:Accession: S22877

A:Molecule type: DNA

A:Residues: 1-154 <DIC>

A:Cross-references: EMBL:X51358

R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.

DNA 8, 649-657, 1989

A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mR

A:Reference number: A33390; MUID:90126234

A:Accession: A33390

A:Molecule type: mRNA

A:Residues: 1-43, 'SS', 46-154 <WON>

A:Cross-references: GB:M30653; NID:g165929; PIDN:AAA080532.1; PID:g165930

R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.

Biochim. Biophys. Acta 997, 27-35, 1989

A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

insulin-like growth factor I precursor, splice form 2 - sheep

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C>Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 23-Jul-1999

C:Accession: S22878; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression an

A:Reference number: S22877; MUID:91197361

A:Accession: S22878

A:Molecule type: preliminary

A:Residues: 1-138 <DIC>

A:Cross-references: EMBL:X51358

R:Francis, G.L.; McNeill, K.A.; Wallace, J.C.; Ballard, F.J.; Owens, P.C.

Endocrinology 124, 1173-1183, 1989

A:Title: Sheep insulin-like growth factors I and II: sequences, activities and assays

A:Reference number: S07198; MUID:89136887

A:Accession: S07198

A:Molecule type: protein

A:Residues: 34-103 <PRA>

A:Experimental source: fetal plasma

C:Genetics:

Introns: 5/3; 59/1; 119/3

Superfamily: insulin

C:Keywords: alternative splicing; growth factor; plasma

F:7-33/Domain: propeptide #status predicted <PRO>

F:34-103/Product: insulin-like growth factor I (active) #status experimental <MAT>

F:63-74/Domain: insulin chain B-like #status predicted <DOB>

F:75-95/Domain: insulin connecting peptide-like #status predicted <CHC>

F:96-103/Domain: insulin chain A-like #status predicted <DOA>

F:96-103/Domain: peptide D #status predicted <CHD>

F:104-138/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

F:39-81,51-94,80-85/disulfide bonds: #status predicted

Query Match 75.1%; Score 452; DB 2; Length 138;

Best Local Similarity 96.5%; Pred. No. 1.8e-39;

Matches 83; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 60

Db 34 GPETLCGAEVDALQFVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLMY 93

Qy 61 CAPLPKAAARSVRAQRHTDMPKTK 86

Db 94 CAPLPKAAARSVRAQRHTDMPKTK 119

RESULT 13

A33390

Insulin-like growth factor I precursor, splice form 1 - sheep

N:Alternate names: somatomedin C

C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C>Date: 09-Mar-1990 #sequence_revision 27-Feb-1997 #text_change 23-Jul-1999

C:Accession: S22877; A33390; S07965; S07198

R:Dickson, M.C.; Saunders, J.C.; Gilmour, R.S.

J. Mol. Endocrinol. 6, 17-31, 1991

A:Title: The ovine insulin-like growth factor-I gene: characterization, expression an

A:Reference number: S22877; MUID:91197361

A:Accession: S22877

A:Molecule type: DNA

A:Residues: 1-154 <DIC>

A:Cross-references: EMBL:X51358

R:Wong, E.A.; Ohlsen, S.M.; Godfredson, J.A.; Dean, D.M.; Wheaton, J.E.

DNA 8, 649-657, 1989

A:Title: Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity in the mR

A:Reference number: A33390; MUID:90126234

A:Accession: A33390

A:Molecule type: mRNA

A:Residues: 1-43, 'SS', 46-154 <WON>

A:Cross-references: GB:M30653; NID:g165929; PIDN:AAA080532.1; PID:g165930

R:Hey, A.W.; Browne, C.A.; Simpson, R.J.; Thorburn, G.D.

Biochim. Biophys. Acta 997, 27-35, 1989

A:Title: Simultaneous isolation of insulin-like growth factors I and II from adult sh

A/Gene: igf1
C/Superfamily: insulin
C/Keywords: alternative splicing; growth factor
F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>
F;23-51/Domain: insulin chain B-like #status predicted <DOB>
F;52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>
F;64-84/Domain: insulin chain A-like #status predicted <DOA>
F;85-92/Domain: D peptide #status predicted <DOD>
F;93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

Query Match 74.8%; Score 450; DB 2; Length 127;
Best Local Similarity 95.3%; Pred. No. 2.7e-39;
Matches 82; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLMY 60
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 23 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRRLMY 82

QY 61 CAPLKPAKAARSVRAORHTDMPKTOK 86
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Db 83 CAPLKPTKAARSIARAORHTDMPKTOK 108

RESULT 15
B27804
Insulin-like growth factor IA precursor - rat
N:Alternate names: IGF-IA; somatomedin C
C/Species: Rattus norvegicus (Norway rat)
C/Date: 16-Mar-1989 #sequence_revision 16-Mar-1989 #text_change 21-Jul-2000
C/Accession: B27804; A27849; JH0133; A28504; JN0088; A32857; A61096
R/Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A/Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence,
A/Reference number: A27804; MUID:87222423
A/Accession: B27804
A/Molecule type: DNA
A/Molecule type: 1-153 <SHI>
A/Cross-references: GB:M15651; GB:J02743; NID:g204297; PIDN:AAAA1215.1; PID:g204300
R/Casella, S.J.; Smith, E.P.; Van Wyk, J.J.; Joseph, D.R.; Hynes, M.A.; Hoyt, E.C.; L
DNA 6, 325-330, 1987
A/Title: Isolation of rat testis cDNAs encoding an insulin-like growth factor I precu
A/Reference number: A27849; MUID:88003970
A/Accession: A27849
A/Molecule type: mRNA
A/Residues: 27-153 <CAS>
A/Cross-references: GB:M17335; NID:g204751; PIDN:AAA41386.1; PID:g204752
R/Kato, H.; Okoshi, A.; Miura, Y.; Noguchi, T.
Agric. Biol. Chem. 54, 1599-1601, 1990
A/Title: A new cDNA clone relating to larger molecular species of rat insulin-like gr
A/Reference number: JH0133; MUID:91103966
A/Accession: JH0133
A/Molecule type: mRNA
A/Residues: 27-153 <KAN>
A/Cross-references: GB:D00698; NID:g220780; PIDN:BAA00604.1; PID:g220781
R/Murphy, L.J.; Bell, G.I.; Duckworth, M.L.; Friesen, H.G.
Endocrinology 121, 684-691, 1987
A/Title: Identification, characterization, and regulation of a rat complementary deox
A/Reference number: A28504; MUID:87246437
A/Accession: A28504
A/Molecule type: mRNA
A/Residues: 46-153 <MUR>
A/Cross-references: GB:M17714; NID:g204324; PIDN:AAA41227.1; PID:g204325
R/Kato, H.; Takenaka, A.; Miura, Y.; Nishiyama, M.; Noguchi, T.
Agric. Biol. Chem. 54, 2225-2230, 1990
A/Title: Evidence of introduction by molecular cloning of artificial inverted sequenc
A/Reference number: JN0088; MUID:91136779
A/Accession: JN0088
A/Molecule type: mRNA
A/Residues: 'MSAPP',22-153 <KA2>
A/Experimental source: liver
A>Note: the authors present evidence that this mRNA may contain an artifactual inver

R; Tamura, K.; Kobayashi, M.; Ishii, Y.; Tamura, T.; Hashimoto, K.; Nakamura, S.; Niwa, M.
 J. Biol. Chem. 264, 5616-5621, 1989
 A; Title: Primary structure of rat insulin-like growth factor-I and its biological activity
 A; Reference number: A32857; MUID:89174609
 A; Accession: A32857
 A; Molecule type: protein
 A; Residues: 49-118 <TAM>
 R; Canalis, E.; McCarthy, T.; Centrella, M.
 Endocrinology 122, 22-27, 1988
 A; Title: Isolation and characterization of insulin-like growth factor I (somatomedin-C)
 A; Reference number: A61096; MUID:88082445
 A; Accession: A61096
 A; Molecule type: protein
 A; Residues: 49-53, 'X', 55-65 <CAN>
 C; Superfamily: insulin
 C; Keywords: alternative splicing; growth factor
 F; 49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 74.3%; Score 447; DB 2; Length 153;
 Best Local Similarity 94.2%; Pred. No. 5.5e-39;
 Matches 81; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY	1	GPETLCGAEIYDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	60
Db	49	GPETLCGAEIYDALQVCGDGRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRRLEMY	108
QY	61	CAPLPAKAAARSVRAQRHTDMPKTK	86
Db	109	CAPLPTKSARSIRAQRHTDMPKTK	134

Search completed: October 25, 2002, 15:59:29
 Job time : 13.7048 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:06 ; Search time 25.4096 Seconds
(without alignments)
485.217 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCAELVDALQFVCGP.....THKKRLQRRKSGTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5
ched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters: 747574

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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- 2: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1981.DAT.*
- 3: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1982.DAT.*
- 4: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1983.DAT.*
- 5: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1984.DAT.*
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- 10: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1989.DAT.*
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- 13: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*
- 14: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA1993.DAT.*
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- 21: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA2000.DAT.*
- 22: /SIDSL/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	599	100.0	111	22	AAE02448 Rat IGF-I isoform
2	512	85.5	111	22	AAE02449 Rabbit IGF-I isofo
3	512	85.5	121	18	AAW23301 Rabbit insulin lik
4	494.5	82.6	110	22	AAE02447 Human IGF-I isofo
5	471	78.6	105	22	AAE02451 Rat liver-type IGF
6	471	78.6	105	22	AAE02531 Rat liver-type IGF
7	464	77.5	195	8	AAE02077 Sequence of pre-pr
8	423	70.6	105	22	AAE02450 Human liver-type I
9	423	70.6	137	22	AAU09067 Human insulin-like
10	423	70.6	153	16	AAE03803 Insulin-like growt
11	423	70.6	153	19	AAW69733 Human IGF-1. Homo

12	423	70.6	153	19	AAW57882 Human IGF-I protei
13	423	70.6	154	14	AAE04084 Goat insulin like
14	423	70.6	156	18	AAW23302 Human insulin like
15	420	70.1	105	22	AAE02452 Rabbit liver-type
16	416	69.4	119	7	AAE02456 Human prepro-somat
17	414	69.1	105	22	AAE02456 Rabbit liver-type
18	412.5	68.9	191	19	AAW64068 Chimeric rhIGF-I-A
19	367	61.3	78	21	AAE04082 Pep 17 used in nuc
20	367	61.3	78	21	AAE04082 Peptide ligand pep
21	367	61.3	78	22	AAU04272 Nuclear ligand pep
22	367	61.3	78	22	AAE04272 Nucleic acid trans
23	359	59.9	176	17	AAE04272 Rainbow trout insu
24	354	59.1	186	16	AAE04272 Platfish insulin-l
25	344	57.4	71	9	AAE04272 Insulin-like growt
26	342	57.1	953	19	AAW56011 Recombinant botuli
27	341	56.9	70	5	AAE04034 Sequence of human
28	341	56.9	70	8	AAE04034 Sequence of oxidat
29	341	56.9	70	8	AAE04034 Sequence of human
30	341	56.9	70	10	AAE04034 New insulin-like g
31	341	56.9	70	14	AAE04034 Insulin-like growt
32	341	56.9	70	14	AAE04034 hIGF-I. Homo sapi
33	341	56.9	70	14	AAE04034 Peptide derived fr
34	341	56.9	70	15	AAE04034 Human IGF-I peptid
35	341	56.9	70	15	AAE04034 Sequence of insuli
36	341	56.9	70	16	AAE04034 Human insulin-like
37	341	56.9	70	17	AAE04034 Insulin like growt
38	341	56.9	70	17	AAE04034 Wild type IGF-1 se
39	341	56.9	70	17	AAE04034 Recombinant insuli
40	341	56.9	70	18	AAE04034 Peptide derived fr
41	341	56.9	70	18	AAE04034 Human mature insul
42	341	56.9	70	21	AAE04034 Human insulin-like
43	341	56.9	70	21	AAE04034 Human insulin-like
44	341	56.9	70	21	AAE04034 Insulin like growt
45	341	56.9	70	21	AAE04034 Amino acid sequenc

ALIGNMENTS

RESULT 1
AAE02448
ID AAE02448 standard; Protein; 111 AA.
XX
AC AAE02448;
XX
DT 10-AUG-2001 (first entry)
XX
XX
DE Rat IGF-I isoform mechano-growth factor (MGF) protein.
XX
KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease.
XX
OS Rattus sp.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldsplink G, Johnson I;
XX
DR WPI: 2001-355620/37.
DR N-FSDB; AAD06399.

XX PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX
 PS Claim 4; Page 52; 66pp; English.
 CC
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (EC) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 XX Sequence 111 AA;

Query Match 100.0%; Score 599; DB 22; Length 111;
 Best Local Similarity 100.0%; Pred. No. 1.6e-51;
 Matches 111; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPTLCGAEVDALQVCGPRGFYFNKPYVYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 DB 1 GPTLCGAEVDALQVCGPRGFYFNKPYVYSSIRRAPQTGIVDCCFRSCDLRLLEY 60

QY 61 CVRCKPTKSARSIRAQRHDTMPKTSQPLSTHKRKLQRRRKGSTLEEKK 111
 DB 61 CVRCKPTKSARSIRAQRHDTMPKTSQPLSTHKRKLQRRRKGSTLEEKK 111

RESULT 2
 ID AAE02449
 AC AAE02449;
 DT 10-AUG-2001 (first entry)

Rabbit IGF-I isoform mechano-growth factor (MGF) protein.

KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.

OS Oryctolagus cuniculus.

XX WO200136483-A1.
 PN
 XX 25-MAY-2001.
 PD
 XX 15-NOV-2000; 2000WO-GB04354.
 PF
 XX 15-NOV-1999; 99GB-0026968.
 PR
 XX (UNLO) UNIV COLLEGE LONDON.
 PA
 XX

PI Goldspink G, Johnson I;
 XX
 DR WPI: 2001-355620/37.
 XX N-PSDB; AAD06400.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX Claim 4; Page 54; 66pp; English.

CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rabbit IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (EC) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.

XX Sequence 111 AA;

Query Match 85.5%; Score 512; DB 22; Length 111;
 Best Local Similarity 86.5%; Pred. No. 5.5e-43;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPTLCGAEVDALQVCGPRGFYFNKPYVYSSIRRAPQTGIVDCCFRSCDLRLLEY 60
 DB 1 GPTLCGAEVDALQVCGDRGFYFNKPYGYGSSRRAPQTGIVDCCFRSCDLRLLEY 60

QY 61 CVRCKPTKSARSIRAQRHDTMPKTSQPLSTHKRKLQRRRKGSTLEEKK 111
 DB 61 CAPLPAKAARSVRAQRHDTMPKTKYQPPSTNKKMKSQRRRKGSTFEEHK 111

RESULT 3
 ID AAW23301
 AC AAW23301;
 DT 14-APR-1998 (first entry)

Rabbit insulin like growth factor 1.

KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
 KW heart; neuromuscular disease.

OS Oryctolagus cuniculus.

XX WO9733997-A1.
 PN
 XX 18-SEP-1997.
 PD
 XX 11-MAR-1997; 97WO-GB00658.
 PF
 XX 11-MAR-1996; 96GB-0005124.
 PR
 XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
 PA
 XX Goldspink G;
 PI

XX WPI: 1997-470877/43.
 DR N-PSDB; AAT84893.
 XX
 XX Use of insulin like growth factor I characterised by presence of Ec
 PT peptide - to treat humans or animals, particularly muscle disorders,
 PT heart conditions or neuromuscular diseases
 XX
 XX Disclosure; Fig 3; 33pp; English.
 XX
 CC A use of insulin like growth factor I (IGF-1) has been developed, and
 CC is characterised by the presence of the Ec peptide, or a functional
 CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
 CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
 CC Becker muscular dystrophy, autosomal dystrophies and related progressive
 CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
 CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
 CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
 CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
 CC heart failure or insult, specifically myocarditis or myocardial
 CC infarction. It can also be used to promote bone fracture healing and
 CC maintenance of bone in old age. The present sequence represents rabbit
 CC IGF-1 used in the present specification.
 XX
 XX Sequence 121 AA;
 SQ
 Query Match 85.5%; Score 512; DB 18; Length 121;
 Best Local Similarity 86.5%; Pred. No. 6e-43;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
 QY 1 GPTTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 11 GPTTLCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 70
 QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEHK 111
 DB 71 CAPLKPAAKARSVRAQRHTDMPKTKQYQPPSTNKNMKSQRKRGSTFEHK 121
 RESULT 4
 AAE02447
 ID AAE02447 standard; Protein; 110 AA.
 XX
 AC AAE02447;
 XX
 DT 10-AUG-2001 (first entry)
 DE Human IGF-I isoform mechano-growth factor (MGF) protein.
 XX
 KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease.
 XX
 OS Homo sapiens.
 PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI: 2001-355620/37.
 DR N-PSDB; AAD06398.

XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 medicament for the treatment of neurological disorder -
 Claim 4; Page 50-51; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
 CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is human IGF-I isoform MGF. MGF is a muscle
 CC isoform having extracellular (Ec) domain, hence also referred as
 CC IGF-I-Ec. The MGF protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4, 5 and 6 in the reading frame
 CC of MGF.
 XX
 XX Sequence 110 AA;
 SQ
 Query Match 82.6%; Score 494.5; DB 22; Length 110;
 Best Local Similarity 85.6%; Pred. No. 2.9e-41;
 Matches 95; Conservative 2; Mismatches 13; Indels 1; Gaps 1;
 QY 1 GPTTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
 DB 1 GPTTLCGAEVLDAQFVCGDGRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
 QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRRKGSTLEEHK 111
 DB 61 CAPLKPAAKARSVRAQRHTDMPKTKQYQPPSTNKNKTSQ-RRKGSTFEHK 110
 RESULT 5
 AAE02451
 ID AAE02451 standard; Protein; 105 AA.
 XX
 AC AAE02451;
 XX
 DT 10-AUG-2001 (first entry)
 DE Rat liver-type IGF-I isoform (L.IGF-I) protein.
 XX
 KW Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
 XX
 OS Rattus sp.
 PN WO200136483-A1.
 XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-GB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 PA (UNLO) UNIV COLLEGE LONDON.
 XX
 PI Goldspink G, Johnson I;
 XX
 DR WPI: 2001-355620/37.
 DR N-PSDB; AAD06398.

PI Goldspink G, Johnson I;
 XX WPI; 2001-355620/37.
 DR N-PSDB; AAD06404.
 XX
 XX
 XX
 PT Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX
 PS Disclosure; Page 58-59; 66pp; English.
 XX
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy, progressive
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is rat liver-type IGF-I isoform (L-IGF-I).
 CC The L-IGF-I protein comprises amino acid sequences encoded by
 CC nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence (SEQ ID NO: 12) is stated as being the
 CC same as that shown in figure 9 (AAE02531) of the specification. However
 CC it differs at a single position.
 XX
 XX
 SQ Sequence 105 AA;

Query Match 78.6%; Score 471; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 5.6e-39;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 QY 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86
 DB 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86

RESULT 6
 AAE02531
 AA02531 standard; Protein; 105 AA.
 AC AAE02531;
 XX
 XX
 DT 10-AUG-2001 (first entry)
 XX
 DE Rat liver-type IGF-I isoform (L-IGF-I) protein, alternative version.

DE Rat; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
 KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
 KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
 KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
 KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
 KW sex-linked muscular dystrophy; peripheral neuropathy;
 KW Alzheimer's disease; Parkinson's disease; liver; L-IGF-I.

XX Rattus sp.
 OS
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 102
 FT /note= "Encoded by ACC"
 XX
 XX WO200136483-A1.

XX
 PD 25-MAY-2001.
 XX
 PF 15-NOV-2000; 2000WO-CB04354.
 XX
 PR 15-NOV-1999; 99GB-0026968.
 XX
 XX (UNLO) UNIV COLLEGE LONDON.
 PA
 XX Goldspink G, Johnson I;
 PI
 XX WPI; 2001-355620/37.
 DR N-PSDB; AAD06404.
 XX
 XX Use of mechano-growth factor, an isoform of Insulin-like Growth
 PT Factor-I, capable of reducing motoneurone loss, in the manufacture of a
 PT medicament for the treatment of neurological disorder -
 XX
 XX
 PS Disclosure; Fig 9; 66pp; English.
 XX
 CC The present invention relates to use of mechano-growth factor (MGF),
 CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
 CC medicament for the treatment of neurological disorder. The MGF is capable
 CC of reducing motoneurone loss by 20% or greater in response to nerve
 CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
 CC rescue. The MGF polynucleotide and polypeptide are useful in the
 CC manufacture of a medicament for the treatment of a neurological disorder,
 CC including a disorder of motoneurons and/or neurodegenerative disorder,
 CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
 CC spinal muscular atrophy, infantile or juvenile muscular atrophy, a disorder caused by exposure to a
 CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
 CC injury that affects motoneurons, motoneurone loss associated with aging,
 CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
 CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
 CC The present sequence is alternative version of rat liver-type IGF-I
 CC isoform (L-IGF-I). The L-IGF-I protein comprises amino acid sequences
 CC encoded by nucleic acid sequence of IGF-I exons 4 and 6.
 CC Note: The present sequence is stated as being the same as SEQ ID NO: 12
 CC shown in sequence listing (AAE02451) of the specification. However
 CC it differs at a single position.
 XX
 XX
 SQ Sequence 105 AA;

Query Match 78.6%; Score 471; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 5.6e-39;
 Matches 86; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60

QY 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86
 DB 61 CVRCKPTKSARSIRAQRHTDMPKTOK 86

RESULT 7
 AAP70277
 ID AAP70277 standard; protein; 195 AA.
 XX
 AC AAP70277;
 XX
 DT 05-APR-1991 (first entry)
 XX
 DE Sequence of pre-pro-insulin-like growth factor 1B (ppiGF-1B).
 XX Growth promoter; lactation enhancer; cell proliferation.
 KW Homo sapiens.
 OS
 XX
 XX EP229750-A.

PD 22-JUL-1987.
XX
PF 06-JAN-1987; 87EP-0870001.
XX
PR 20-NOV-1986; 86US-0929671.
PR 07-JAN-1986; 86US-0816662.
XX
PA (UNIW) UNIV OF WASHINGTON.
XX
PI Krivi GG, Rotwein PS;
XX
DR WPI; 1987-200203/29.
XX
DR New pre-pro-insulin-like growth factor-1 protein - obtd. by
PT recombinant DNA procedures for use as growth promoters for
PT enhancing lactation, for stimulating cell proliferation etc.
PT
XX Claim 11; Fig 6; 59pp; English.

A 42 base oligonucleotide corresponding to the DNA sequence encoding
CC amino acids 10 to 23 of mature human IGF-I was synthesized (AAN70437).
CC The radiolabeled 42 mer was then employed to screen for IGF-I
CC containing DNA sequences in a human liver cDNA library. Insulin-
CC like growth factors-1A and -1B cDNAs were isolated from a human cDNA
CC library by using lambda dact 11 (AAN70435, AAN70436). The human IGF-1
CC genomic gene was isolated and mapped. It encodes at least two
CC preproinsulin-like growth factor-1 proteins. An essentially pure
CC preproinsulin-like growth factor-1 protein comprising the sequence
CC of amino acids shown in Figure six is claimed (AAP70277).
XX
SQ Sequence 195 AA;

Query Match 77.5%; Score 464; DB 8; Length 195;
Best Local Similarity 85.3%; Pred. No. 5e-38;
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSTIRRAPQTGIVDECCFRCDLRLEMY 60
DB 49 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 108
QY 61 CVRCKPTKSARSIRAOHRHTDMPKTQKSOPLSTHKKRKLQRRR 102
DB 109 CAPLPKPAKSARSVRAQRHTDMPKTQKYOPPSTNKNTKSQRK 150

RESULT 8
AAE02450 standard; Protein; 105 AA.
XX
AC AAE02450;
XX
DT 10-AUG-2001 (first entry)
XX
DE Human liver-type IGF-I isoform (L.IGF-I) protein.
XX
KW Human; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS Homo sapiens.
XX
PN WO200136483-A1.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX

PA (UNLO) UNIV COLLEGE LONDON.
XX
PI Goldspink G, Johnson I;
XX
DR WPI; 2001-355620/37.
XX N-PSDB; AAD06403.
PT Use of mechano-growth factor, an isoform of Insulin-like Growth
PT factor-I, capable of reducing motoneurone loss, in the manufacture of a
PT medicament for the treatment of neurological disorder -
XX
PS Disclosure; Fig 8; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable
CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is human liver-type IGF-I isoform (L.IGF-I).
CC The L.IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
XX
SQ Sequence 105 AA;

Query Match 70.6%; Score 423; DB 22; Length 105;
Best Local Similarity 90.7%; Pred. No. 2.9e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSTIRRAPQTGIVDECCFRCDLRLEMY 60
DB 1 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRCDLRLEMY 60
QY 61 CVRCKPTKSARSIRAOHRHTDMPKTQK 86
DB 61 CAPLPKPAKSARSVRAQRHTDMPKTQK 86

RESULT 9
AAU09067
ID AAU09067 standard; Protein; 137 AA.
XX
AC AAU09067;
XX
DT 19-DEC-2001 (first entry)
XX
DE Human insulin-like growth factor, IGF1.
XX
KW Human; long-term memory protein; LTM; insulin-like growth factor;
KW neuroleptic; anticonvulsant; nootropic; neuroprotective; IGF1;
KW cerebrotective; drug discovery; therapeutic profiling;
KW learning disability; memory impairment; brain injury; epilepsy;
KW mental retardation; senile dementia; Alzheimer's disease.
XX
OS Homo sapiens.
XX
PN WO200174298-A2.
XX
PD 11-OCT-2001.
XX
PF 02-APR-2001; 2001WO-US10661.
XX
PR 31-MAR-2000; 2000US-193614P.
XX

PA (UYBR-) UNIV BROWN RESEARCH FOUND.
 PA (HUGH-) HUGHES HOWARD MED INST.
 PI Alberini CM, Bear MF;
 XX
 XX WPI; 2001-626335/72.
 DR N-PSDB; AAS14695.
 XX
 XX Regulating memory consolidation in an animal comprising treating with
 PT an agent that modulates activity of one or more genes from zif268,
 PT insulin-like growth factor, glutamate receptor 2, c/EBPbeta and VGF
 XX
 PS Disclosure; Page 90-91; 100pp; English.
 XX
 CC The invention relates to modulating long term memory consolidation in an
 CC animal comprises treating with an agent that modulates the activity of
 CC one or more of genes from zif268, insulin-like growth factor (IGF),
 CC glutamate receptor 1 (GluR1), glutamate receptor 2 (GluR2), c/EBPbeta
 CC and neuroendocrine VGF (neurotrophin-inducible gene). The method is useful
 CC for identifying an agent which modulates memory consolidation. The method
 CC is useful for conducting a drug and/or target discovery business, which
 CC comprises conducting therapeutic profiling of the agents (or their
 CC analogues) identified, for efficacy and toxicity in animals, and
 CC formulating a pharmaceutical preparation including one or more agents
 CC identified as having an acceptable therapeutic profile and/or licensing
 CC to a third party the rights for further drug development of the
 CC identified agents. The method of conducting drug discovery business
 CC further comprises an additional step of establishing a distribution
 CC system for distributing the preparation for sale and may optionally
 CC include establishing a sales group for marketing the preparation. A
 CC pharmaceutical composition containing the agent is useful for enhancing
 CC memory consolidation in an animal, or for augmenting learning and memory,
 CC or otherwise for enhancing the functional performance of central nervous
 CC system neurons, where the agent is a cAMP elevating agent (agonist)
 CC preferably a cAMP analogue or cAMP phosphodiesterase inhibitor, which
 CC activates adenylate cyclase. The composition is useful for treating
 CC diseases associated with learning disabilities, memory impairment e.g.
 CC due to toxicant exposure, brain injury, epilepsy, mental retardation in
 CC children and senile dementia, including Alzheimer's disease. The
 CC present sequence represents human insulin-like growth factor, IGF1.
 XX
 SQ Sequence 137 AA;
 Query Match 70.6%; Score 423; DB 22; Length 137;
 Best Local Similarity 90.7%; Pred. No. 3.8e-34;
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 QY 1 GPTLCGAEVLVDALQVFCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 33 GPETLCGAEVLVDALQVFCGDRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 92
 61 CVRCKPTKSARSIRAOHRHTDMPKTOK 86
 DB 93 CAPLPAKSARSVRAQRHTDMPKTOK 118
 RESULT 10
 AAR83803
 ID AAR83803 standard; protein; 153 AA.
 XX
 AC AAR83803;
 XX
 DT 15-FEB-1996 (first entry)
 DE Insulin-like growth factor 1.
 XX
 KW Insulin-like growth factor 1 receptor; IGF-1; synthetic peptide; cancer;
 KW autophosphorylation; cellular growth; proliferation; restenosis; asthma;
 KW burn; wound; brain metastasis.
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 Human; IGF-1; insulin-like growth factor 1; urinary incontinence;

FT Peptide 49..118
 FT /label= mature peptide
 FT Domain 49..77
 FT /label= B domain
 FT Domain 78..89
 FT /label= C domain
 FT Domain 90..110
 FT /label= A domain
 FT Domain 111..118
 FT /label= D domain
 XX
 PN WO9516703-A1.
 XX
 XX 22-JUN-1995.
 PD
 XX 15-DEC-1994; 94WO-US14576.
 PF
 XX 15-DEC-1993; 93US-0167653.
 PR
 XX (UYJE-) UNIV JEFFERSON THOMAS.
 PA
 XX Baserga R, Jameson BA;
 PI
 XX WPI; 1995-231515/30.
 DR
 XX New synthetic IGF-1 analogues comprising 5-25 amino acids - useful
 PT in treatment of diseases associated with undesirable cell
 PT proliferation
 PT
 XX Disclosure; Page 20-21; 28pp; English.
 PS
 XX The amino acid sequence of the insulin-like growth factor 1 pre-protein.
 CC Processing of the protein results in a 70 amino acid mature protein. The
 CC mature protein is split into 4 domains: the B domain has strong homology
 CC to the B chain of insulin, the A domain similarly has homology to the A
 CC chain of insulin. These domains are separated by a C domain and the
 CC mature protein is terminated by a D domain at the C-terminus. The D
 CC domain sequence was used to synthesis peptides (AAR83801-2) that
 CC include amino acid residues 60-64 of the mature IGF-1 protein. IGF-1
 CC binds to the IGF-1 receptor (IGF-1R) via the D domain and induces
 CC activation of the IGF-1R by autophosphorylation of the IGF-1R.
 CC Activated IGF-1R is associated with cellular growth and proliferation.
 CC The synthetic peptides are useful as inhibitors of IGF-1 binding to
 CC IGF-1R and thus may be used in the treatment of disorders characterised
 CC by undesirable cell proliferation eg. cancer, restenosis, asthma, burns,
 CC wounds or brain metastases.
 XX
 SQ Sequence 153 AA;
 Query Match 70.6%; Score 423; DB 16; Length 153;
 Best Local Similarity 90.7%; Pred. No. 4.2e-34;
 Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
 QY 1 GPETLCGAEVLVDALQVFCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
 DB 49 GPETLCGAEVLVDALQVFCGDRGFGYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 108
 QY 61 CVRCKPTKSARSIRAOHRHTDMPKTOK 86
 DB 109 CAPLPAKSARSVRAQRHTDMPKTOK 134
 RESULT 11
 AAW69733
 ID AAW69733 standard; Protein; 153 AA.
 XX
 AC AAW69733;
 XX
 DT 26-OCT-1998 (first entry)
 DE Human IGF-1.
 XX
 KW Human; IGF-1; insulin-like growth factor 1; urinary incontinence;

gene therapy; neurotrophic factor.

OS Homo sapiens.

PN WO9833529-A1.

PD 06-AUG-1998.

PF 04-FEB-1998; 98WO-US02051.

PR 04-FEB-1997; 97US-0036862.

PA (GENE-) GENEMEDICINE INC.

PI Coleman M;

DR WPI; 1998-437184/37.

N-PSDB; AAV50425.

Treatment of urinary incontinence - by delivering nucleic acid vector for expression of growth factor or neurotrophic factor in tissue(s)

Claim 12d; Page 108-109; 117pp; English.

A method has been developed of treating urinary incontinence (UI) in mammals. The method comprises delivering a nucleic acid vector for the expression of a growth factor or neurotrophic factor in a tissue or tissues. The present sequence represents human IGF-1 (insulin-like growth factor 1) which is used in the method of the invention. Due to the growth and stimulatory effects of growth factors and neurotrophic factors, introducing these factors to degenerated muscles in the urinary system can improve UI by enhancing both their integrity and neural innervation.

Sequence 153 AA;

Query Match 70.6%; Score 423; DB 19; Length 153;

Best Local Similarity 90.7%; Pred. No. 4.2e-34;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

61 CVRCKPTKSARSIRAQRHTDMPKTQK 86

109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 12

AAW57882

ID AAW57882 standard; Protein; 153 AA.

AC AAW57882;

DT 23-SEP-1998 (first entry)

DE Human IGF-I protein.

IGF-I; insulin-like growth factor I; skeletal alpha-actin gene promoter; muscle atrophy; diabetes; osteoporosis; growth disorder; therapy; AIDS; Chacot-marie-tooth disease; atherogenesis; haemophilia; neuropathy.

OS Homo sapiens.

PN WO9824922-A1.

PD 11-JUN-1998.

PF 01-DEC-1997; 97WO-US21852.

PR 19-NOV-1997; 97US-0974572.

PR 02-DEC-1996; 96US-0031539.

PA (BAYU) BAYLOR COLLEGE MEDICINE.

PA (GENE-) GENEMEDICINE INC.

PI Coleman M, Demayo EJ, Schwartz R;

DR WPI; 1998-333339/29.

DR N-PSDB; AAV40793, AAV40794.

New vector for expression of insulin-like growth factor-I - containing a skeletal alpha-actin gene promoter, IGF-I coding sequences and a 3' region from growth hormone 3'-UTR

Disclosure; Fig 13; 115pp; English.

This sequence is the human insulin-like growth factor I (IGF-I). The DNA can be used in the vector of the invention, for expression of a nucleic acid sequence in a cell, which comprises: (a) a nucleic acid cassette containing a sequence encoding IGF-I; (b) a 5' flanking region including one or more sequences necessary for expression of the nucleic acid cassette, including a promoter from a skeletal alpha-actin gene; (c) a linker connecting the 5' flanking region to a nucleic acid; the linker having a position for inserting the nucleic acid cassette, and lacking the coding sequence of a gene with which it is naturally associated; and (d) a 3' flanking region, including a 3' untranslated region or a 3' non coding region or both, where the 3' flanking region is 3' to the position for inserting the nucleic acid cassette and comprises a sequence from a growth hormone 3'-UTR. The vector can provide for efficient IGF-I expression, particularly in gene therapy. It can be used for the delivery of IGF-I for treating diseases such as muscle atrophy, diabetes, neuropathy, osteoporosis, and growth disorders. They can be used for treating peripheral neuropathies resulting from diabetes, genetic disease such as Type I or Type II diabetes, genetic disease such as Chacot-marie-tooth disease, AIDS, atherogenesis, atherosclerotic, cardiovascular, cerebrovascular, or peripheral vascular disease, haemophilia, inflammation and side-effects from anti-cancer and anti-viral drugs. The vectors can also be used to create transgenic animals for research or livestock improvement.

Sequence 153 AA;

Query Match 70.6%; Score 423; DB 19; Length 153;

Best Local Similarity 90.7%; Pred. No. 4.2e-34;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAEIVDALQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60

Db 49 GPETLCGAEIVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 108

QY 61 CVRCKPTKSARSIRAQRHTDMPKTQK 86

Db 109 CAPLKPAKSARSVRAQRHTDMPKTQK 134

RESULT 13

AAW40844

ID AAW40844 standard; Protein; 154 AA.

AC AAW40844;

DT 03-MAR-1994 (first entry)

DE Goat Insulin like growth factor 1 (IGF-1) precursor.

Insulin; growth factor; bone; tumour therapy.

OS Capra hircus.

PN JP05199878-A.

PD 10-AUG-1993.

PF 02-DEC-1991; 91JP-0347820.
PR 02-DEC-1991; 91JP-0347820.
XX (KOMA/) KOMANO T.
XX WPI; 1993-284680/36.
DR N-PSDB; AAQ47804.
XX
PT Goat insulin-like growth factor I - useful for prepn. of
PT insulin-like growth factor I used for growth of bone and tumour
PT therapy
XX
PS Claim 2; Figure 1; 6pp; Japanese.
XX
CC The goat IGF precursor is useful for the preparation of IGF-1 which
CC is used for growth of bone and the therapy of tumours. The IGF-1
CC precursor is prepared by inserting the coding sequence into an
CC expression vector, transforming a host cell with the expression
CC vector, culturing the transformed cell and retrieving the IGF-1
CC precursor from the culture supernatant.
XX
XX Sequence 154 AA;
Query Match : 70.6%; Score 423; DB 14; Length 154;
Best Local Similarity 90.7%; Pred. No. 4.2e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 50 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 109
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
DB 110 CAPLKPTKSARSVRAQRHDTMPKAQK 135
RESULT 14
AAW23302
ID AAW23302 standard; Protein; 156 AA.
XX
AC AAW23302;
XX
DT 14-APR-1998 (first entry)
DE Human insulin like growth factor 1 Ea isoform.
XX
KW Insulin like growth factor 1; IGF-1; Ec peptide; muscle disorder;
KW heart; neuromuscular disease.
XX
XX Homo sapiens.
XX WO9733997-Al.
XX
PO 18-SEP-1997.
XX
XX
PF 11-MAR-1997; 97WO-GB00658.
XX
PR 11-MAR-1996; 96GB-0005124.
XX
XX (UNLO) ROYAL FREE HOSPITAL SCHOOL MED.
PA Goldspink G;
PI
XX
DR WPI; 1997-470877/43.
DR N-PSDB; AAT84894.
XX
PT Use of insulin like growth factor I characterised by presence of Ec
PT peptide - to treat humans or animals, particularly muscle disorders,
PT heart conditions or neuromuscular diseases
XX
XX Disclosure; Fig 4; 33pp; English.

CC A use of insulin like growth factor I (IGF-1) has been developed, and
CC is characterised by the presence of the Ec peptide, or a functional
CC equivalent, in the treatment or therapy of a human or animal. The IGF-1
CC polypeptide can be used to treat muscular disorders, e.g. Duchenne or
CC Becker muscular dystrophy, autosomal dystrophies and related progressive
CC skeletal muscle weakness and wasting, muscle atrophy in ageing humans,
CC spinal cord injury induced muscle atrophy and neuromuscular diseases,
CC and cardiac disorders, e.g. diseases where promotion of cardiac muscle
CC protein synthesis is a beneficial treatment, cardiomyopathies and acute
CC heart failure or insult, specifically myocarditis or myocardial
CC infarction. It can also be used to promote bone fracture healing and
CC maintenance of bone in old age. The present sequence represents human
CC IGF-1 Ea isoform used in the present specification.
XX
XX Sequence 156 AA;
Query Match : 70.6%; Score 423; DB 18; Length 156;
Best Local Similarity 90.7%; Pred. No. 4.3e-34;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
QY 1 GPETLCGAEVLVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRLRLEY 60
DB 52 GPETLCGAEVLVDALQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLRLEY 111
QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
DB 112 CAPLKPTKSARSVRAQRHDTMPKTK 137
RESULT 15
AAE02452
ID AAE02452 standard; Protein; 105 AA.
XX
AC AAE02452;
XX
DT 10-AUG-2001 (first entry)
XX
DE Rabbit liver-type IGF-I isoform (L.IGF-I) protein.
XX
KW Rabbit; IGF-I isoform; Insulin-like Growth Factor-I; MGF;
KW mechano-growth factor; neurological disorder; neurodegenerative disorder;
KW amyotrophic lateral sclerosis; spinal muscular atrophy; muscular atrophy;
KW poliomyelitis; post-polio syndrome; toxin; motoneurone disorder;
KW nerve damage; autosomal muscular dystrophy; diabetic neuropathy;
KW sex-linked muscular dystrophy; peripheral neuropathy;
KW Alzheimer's disease; Parkinson's disease; liver; L.IGF-I.
XX
OS Oryctolagus cuniculus.
XX
XX WO200136483-Al.
XX
PN 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-GB04354.
XX
PR 15-NOV-1999; 99GB-0026968.
XX
PA (UNLO) UNIV COLLEGE LONDON.
XX
XX Goldspink G, Johnson I;
PI
DR WPI; 2001-355620/37.
DR N-PSDB; AAD06405.
XX
XX Use of mechano-growth factor, an isoform of Insulin-like Growth
XX Factor-I, capable of reducing motoneurone loss, in the manufacture of a
XX medicament for the treatment of neurological disorder -
PS Disclosure; Page 60-61; 66pp; English.
XX
CC The present invention relates to use of mechano-growth factor (MGF),
CC an Insulin-like Growth Factor-I (IGF-I) isoform in the manufacture of a
CC medicament for the treatment of neurological disorder. The MGF is capable

CC of reducing motoneurone loss by 20% or greater in response to nerve
CC avulsion, and effects motoneurone rescue, preferably adult motoneurone
CC rescue. The MGF polynucleotide and polypeptide are useful in the
CC manufacture of a medicament for the treatment of a neurological disorder,
CC including a disorder of motoneurons and/or neurodegenerative disorder,
CC e.g., amyotrophic lateral sclerosis, spinal muscular atrophy, progressive
CC spinal muscular atrophy, infantile or juvenile muscular atrophy,
CC poliomyelitis or post-polio syndrome, a disorder caused by exposure to a
CC toxin, motoneurone trauma, a motoneurone lesion or nerve damage, an
CC injury that affects motoneurons, motoneurone loss associated with aging,
CC autosomal or sex-linked muscular dystrophy, diabetic neuropathy,
CC peripheral neuropathies, Alzheimer's disease and Parkinson's disease.
CC The present sequence is rabbit liver-type IGF-I isoform (L-IGF-I).
CC The L-IGF-I protein comprises amino acid sequences encoded by
CC nucleic acid sequence of IGF-I exons 4 and 6.
CC Note: The present sequence (SEQ ID NO: 14) is stated as being the
CC same as that shown in figure 10 (AAE02456) of the specification. However
CC it differs at few positions.

Sequence 105 AA;

Query Match 70.1%; Score 420; DB 22; Length 105;
Best Local Similarity 89.5%; Pred. No. 5.7e-34;
Matches 77; Conservative 2; Mismatches 7; Indels 0; Gaps 0;
QY 1 GPETLCGAEIVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFSCDRLRELMY 60
Db 1 GPETLCGAEIVDALQFVCGDRGFYFNKPTVYGSSIRRAPQTGIVDECCFSCDRLRELMY 60
QY 61 CVRCKPTKSARSIRAQRTDMPKTK 86
Db 61 CAPLKPAAKARSVRAQRHTDMPKTK 86

Search completed: October 25, 2002, 15:57:10
Job time : 26.4096 secs

GenCore version 5.1.3
Copyright (c) 1993 - 2002 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:52 ; Search time 10.0301 Seconds
(without alignments)
270.310 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPTLCGAELVDALQFVCGP.....THKKRLQRRKSTLEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Aligned: 231628 seqs, 24425594 residues

Total number of hits satisfying chosen parameters: 231628

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA: *
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep: *
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep: *
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep: *
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep: *
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep: *
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	512	85.5	121	4	US-09-142-583A-4
2	423	70.6	137	1	Sequence 4, Appli
3	423	70.6	152	3	Sequence 10, Appl
4	423	70.6	153	1	Sequence 9, Appli
5	423	70.6	153	5	Sequence 1, Appli
6	423	70.6	156	4	Sequence 11, Appl
7	416	69.4	119	6	Patent No. 5405942
8	412.5	68.9	191	3	Sequence 41, Appl
9	412.5	68.9	191	3	Sequence 41, Appl
10	412.5	68.9	191	4	Sequence 41, Appl
11	367	61.3	78	2	Sequence 47, Appl
12	367	61.3	78	3	Sequence 47, Appl
13	367	61.3	78	4	Sequence 47, Appl
14	367	61.3	78	4	Sequence 47, Appl
15	359	59.9	176	1	Sequence 9, Appli
16	341	56.9	70	1	Sequence 1, Appli
17	341	56.9	70	1	Sequence 17, Appl
18	341	56.9	70	1	Sequence 17, Appl
19	341	56.9	70	1	Sequence 17, Appl
20	341	56.9	70	1	Sequence 17, Appl
21	341	56.9	70	1	Sequence 17, Appl
22	341	56.9	70	3	Sequence 1, Appli
23	341	56.9	70	3	Sequence 1, Appli
24	341	56.9	70	4	Sequence 1, Appli
25	341	56.9	70	5	Sequence 1, Appli
26	341	56.9	70	5	Sequence 1, Appli
27	341	56.9	70	5	Sequence 1, Appli

28	341	56.9	94	1	US-07-989-845-28	Sequence 28, Appl
29	341	56.9	94	1	US-07-989-844-12	Sequence 12, Appl
30	341	56.9	94	1	US-08-161-044-12	Sequence 12, Appl
31	341	56.9	94	1	US-08-240-121-12	Sequence 12, Appl
32	341	56.9	94	1	US-08-451-241-12	Sequence 12, Appl
33	341	56.9	94	5	PCT-US93-11297-12	Sequence 12, Appl
34	341	56.9	94	5	PCT-US93-11298-28	Sequence 28, Appl
35	341	56.9	118	3	US-09-029-267-14	Sequence 14, Appl
36	341	56.9	155	1	US-08-328-961-8	Sequence 8, Appli
37	341	56.9	155	1	US-08-462-397-8	Sequence 39, Appl
38	341	56.9	155	3	US-08-989-251-39	Sequence 39, Appl
39	341	56.9	155	3	US-09-340-250-39	Sequence 39, Appl
40	341	56.9	155	4	US-09-528-108-39	Sequence 5, Appli
41	338	56.4	70	1	US-08-180-572-5	Sequence 18, Appl
42	336	56.1	83	1	US-07-947-035-18	Sequence 12, Appl
43	336	56.1	83	1	US-08-321-585A-12	Patent No. 5470828
44	333	55.6	70	6	5470828-1	Sequence 2, Appli
45	332	55.4	70	1	US-07-654-611-2	

ALIGNMENTS

RESULT 1
US-09-142-583A-4
; Sequence 4, Application US/09142583A
; Patent No. 6221842
; GENERAL INFORMATION:
; APPLICANT: GOLDSPIK, GEOFFREY
; TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESS: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22201
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/09/142,583A
; APPLICATION NUMBER: US/09/142,583A
; FILING DATE: 29-Oct-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/GB97/00658
; FILING DATE: 11-MAR-1997
; APPLICATION NUMBER: GB 9605124.8
; FILING DATE: 11-MAR-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36663
; REFERENCE/DOCKET NUMBER: 117-263
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 7038164000
; TELEFAX: 7038164100
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 121 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
US-09-142-583A-4

Query Match 85.5%; Score 512; DB 4; Length 121;
Best Local Similarity 86.5%; Pred. No. 1.6e-51;
Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPGRFYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60

Db 11 GPTLCGAEVLDAQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 70
QY 61 CVRCKPTKSARSIRAQRHDTMPKTSQPLSTHKKRKLQRRRKGSTLEEHK 111
Db 71 CAPLKPAKARSVRAQRHDTMPKTKYQPPSTNNKMSQRRRKGSTFEHHK 121

RESULT 2
US-07-953-230A-10
; Sequence 10, Application US/07953230A
; Patent No. 5476779
; GENERAL INFORMATION:
; APPLICANT: CHEN, Thomas T
; APPLICANT: SHAMBLOTT, Michael J
; TITLE OF INVENTION: INSULIN-LIKE GROWTH FACTORS ISOLATED
; TITLE OF INVENTION: FROM RAINBOW TROUT
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Burns, Doane, Swecker & Mathis
; STREET: George Mason Bldg., Washington & Prince Sts.
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22131-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/953,230A
; FILING DATE: 30-SEP-1992
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Crane-Feury, Sharon E
; REGISTRATION NUMBER: 36,113
; REFERENCE/DOCKET NUMBER: 028755-010
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 137 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; FEATURE:
; NAME/KEY: Peptide
; LOCATION: 7
; OTHER INFORMATION: /note= "Gap of 2 after 7."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 31
; OTHER INFORMATION: /note= "Gap of 1 after 31."

FEATURE:
; NAME/KEY: Peptide
; LOCATION: 116
; OTHER INFORMATION: /note= "Gap of 27 after 116."

US-07-953-230A-10
Query Match 70.6%; Score 423; DB 1; Length 137;
Best Local Similarity 90.7%; Pred. No. 2.9e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAEVLDAQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92

QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
Db 93 CAPLKPAKARSVRAQRHDTMPKTK 118

RESULT 3
US-08-950-720A-9
; Sequence 9, Application US/08950720A
; Patent No. 6046028
; GENERAL INFORMATION:
; APPLICANT: Conklin, Darrell C.
; APPLICANT: Lofton-Day, Catherine E.
; APPLICANT: Lok, Si
; APPLICANT: Jaspers, Stephen R.
; TITLE OF INVENTION: INSULIN HOMOLOG
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: ZymoGenetics, Inc.
; STREET: 1201 Eastlake Avenue East
; CITY: Seattle
; STATE: WA
; COUNTRY: USA
; ZIP: 98102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/950,720A
; FILING DATE:
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Sawislak, Deborah A
; REGISTRATION NUMBER: 37,438
; REFERENCE/DOCKET NUMBER: 96-09
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 206-442-6672
; TELEFAX: 206-442-6678
; TELEX:
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 152 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: No. 6046028e
US-08-950-720A-9

Query Match 70.6%; Score 423; DB 3; Length 152;
Best Local Similarity 90.7%; Pred. No. 3.2e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTLCGAEVLDAQVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 82

QY 61 CVRCKPTKSARSIRAQRHDTMPKTK 86
Db 83 CAPLKPAKARSVRAQRHDTMPKTK 108

RESULT 4
US-08-219-878A-1
; Sequence 1, Application US/08219878A
; Patent No. 5473054
; GENERAL INFORMATION:
; APPLICANT: Bradford A. Jameson and Renato Baserga
; TITLE OF INVENTION: IGF-1 Analogs
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Woodcock Washburn
; ADDRESSEE: Kurtz Mackiewicz & No. 5473054ris

STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: WORDPERFECT 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/219,878A
FILING DATE: 30-MAR-1994
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/881,524
FILING DATE: 08-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Mark Deluca
REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-1240
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: amino acid
TOPOLOGY: linear
US-08-219-878A-1

Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLVALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 60
Db 49 GPETLCGAEVLVALQFVCGDRGFYFNKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 108

Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPASRSVRAQRHTDMPKTK 134

RESULT 5
PCT-US93-04329-1
GENERAL INFORMATION:
APPLICANT: Bradford A. Jameson and Renato Baserga
TITLE OF INVENTION: IGF-1 Analogs
NUMBER OF SEQUENCES: 7
CORRESPONDENCE ADDRESS:
ADDRESSER: Woodcock Washburn
ADDRESSEE: Kurtz Mackiewicz & Norris
STREET: One Liberty Place - 46th Floor
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb STORAGE
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04329
FILING DATE: 19930507
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/881,524
FILING DATE: 08-MAY-92,
ATTORNEY/AGENT INFORMATION:
NAME: Mark Deluca

REGISTRATION NUMBER: 33,229
REFERENCE/DOCKET NUMBER: TJU-0649
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 153
TYPE: AMINO ACID
TOPOLOGY: linear
PCT-US93-04329-1

Query Match 70.6%; Score 423; DB 5; Length 153;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

Qy 1 GPETLCGAEVLVALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 60
Db 49 GPETLCGAEVLVALQFVCGDRGFYFNKPTVYGSSIRRAPQTGIVDECCFRCDLRLEMY 108

Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPASRSVRAQRHTDMPKTK 134

RESULT 6
US-09-142-583A-11
Sequence 11, Application US/09142583A
Patent No. 6221842
GENERAL INFORMATION:
APPLICANT: GOLDSPIK, GEOFFREY
TITLE OF INVENTION: METHOD OF TREATING MUSCULAR DISORDERS
NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
ADDRESSER: NIXON & VANDERHUYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22201
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/142,583A
FILING DATE: 29-Oct-1998
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO PCT/GB97/00658
FILING DATE: 11-MAR-1997
APPLICATION NUMBER: GB 9605124.8
FILING DATE: 11-MAR-1996
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36663
REFERENCE/DOCKET NUMBER: 117-263
TELECOMMUNICATION INFORMATION:
TELEPHONE: 7038164000
TELEFAX: 7038164100
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 156 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 11:
US-09-142-583A-11

Query Match 70.6%; Score 423; DB 4; Length 156;
Best Local Similarity 90.7%; Pred. No. 3.3e-41;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLRLEY 60
|||||
Db 52 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLRLEY 111
|||||
QY 61 CVCRKPTKSARSIRAQRHTDMPKTOK 86
| || |||||
Db 112 CAPLKPAKSARSVRAQRHTDMPKTOK 137
| || |||||

RESULT 7
5405942-1
; Patent No. 5405942
; APPLICANT: BELL, GRAEME I.; RALL, LESLIE B.; MERRYWEATHER,
; JAMES P.
; TITLE OF INVENTION: PREPRO INSULIN-LIKE GROWTH FACTORS
; I AND II
; NUMBER OF SEQUENCES: 16
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/65,673
; FILING DATE: 16-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 630,557
; FILING DATE: 19-JUL-1984
; SEQ ID NO:1:
; LENGTH: 119
5405942-1

Query Match 69.4%; Score 416; DB 6; Length 119;
Best Local Similarity 89.5%; Pred. No. 1.5e-40;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLRLEY 60
|||||
Db 15 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLRLEY 74
|||||

QY 61 CVCRKPTKSARSIRAQRHTDMPKTOK 86
| || |||||
Db 75 CAPLKPAKSARSVRAQRHTDMPKTOK 100
| || |||||

RESULT 8
US-08-989-251-41
; Sequence 41, Application US/08989251
; Patent No. 6017731
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,251
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-251-41

Query Match 68.9%; Score 412.5; DB 3; Length 191;
Best Local Similarity 89.7%; Pred. No. 6.7e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLRLEY 60
|||||
Db 86 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLRLEY 145
|||||
QY 61 CVCRKPTKSA-RSIRAQRHTDMPKTOK 86
| || |||||

; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-251-41

Query Match 68.9%; Score 412.5; DB 3; Length 191;
Best Local Similarity 89.7%; Pred. No. 6.7e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLRLEY 60
|||||
Db 86 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLRLEY 145
|||||
QY 61 CVCRKPTKSA-RSIRAQRHTDMPKTOK 86
| || |||||
Db 146 CAPLKPAKSARSVRAQRHTDMPKTOK 172
| || |||||

RESULT 9
US-09-340-250-41
; Sequence 41, Application US/09340250
; Patent No. 6083723
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seltzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/340,250
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 881 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-340-250-41

Query Match 68.9%; Score 412.5; DB 3; Length 191;
Best Local Similarity 89.7%; Pred. No. 6.7e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYGSIRRAPQTGIVDECCFSCDLRLRLEY 60
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Db 86 GPTLCGAEVLDAQFVCGDRGFYFNKPTGYGSSRRAPQTGIVDECCFSCDLRLRLEY 145
|||||
QY 61 CVCRKPTKSA-RSIRAQRHTDMPKTOK 86
| || |||||

Db 146 CAPLKPASAKRSVRAQRHTDMPKTK 172

RESULT 10

US-09-528-108-41
; Sequence 41, Application US/09528108
; Patent No. 6312923
; GENERAL INFORMATION:
; APPLICANT: Tekamp-Olson, Patricia
; TITLE OF INVENTION: METHOD FOR EXPRESSION OF HETEROLOGOUS
; PROTEINS IN YEAST
; NUMBER OF SEQUENCES: 41
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Bell Seitzer IP Group of Alston & Bird, LLP
; STREET: 3605 Glenwood Ave. Suite 310
; CITY: Raleigh
; STATE: NC
; COUNTRY: US
; ZIP: 27622
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/528,108
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/989,251
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Spruill, W. Murray
; REGISTRATION NUMBER: 32,943
; REFERENCE/DOCKET NUMBER: 5784-4
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 919 420 2202
; TELEFAX: 919 861 3175
; INFORMATION FOR SEQ ID NO: 41:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 191 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein

US-09-528-108-41

Query Match 68.9%; Score 412.5; DB 4; Length 191;
Best Local Similarity 89.7%; Pred. No. 6.7e-40;
Matches 78; Conservative 1; Mismatches 7; Indels 1; Gaps 1;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
|||||
Db 86 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 145
|||||

QY 61 CVRCKPKTKA-RSIRQRHTDMPKTK 86
Db 146 CAPLKPASAKRSVRAQRHTDMPKTK 172

RESULT 11

US-08-460-890A-47
; Sequence 47, Application US/08460890A
; Patent No. 5994109
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L. C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; STATE: Los Angeles
; COUNTRY: California
; ZIP: 90071-2086
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: storage
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,890A
; FILING DATE: June 5, 1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/167,641
; FILING DATE: December 14, 1993
; APPLICATION NUMBER: 07/855,389
; FILING DATE: March 20, 1992
; APPLICATION NUMBER: PCT/US93/02725
; FILING DATE: March 19, 1993
; ATTORNEY/AGENT INFORMATION:
; NAME: Warburg, Richard J.
; REGISTRATION NUMBER: 32,327
; REFERENCE/DOCKET NUMBER: 212/066
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (213) 489-1600
; TELEFAX: (213) 955-0440
; TELEX: 67-3510
; INFORMATION FOR SEQ ID NO: 47:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 78 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; US-08-460-890A-47

Query Match 61.3%; Score 367; DB 2; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 63
|||||

Db 2 TLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 61
|||||

QY 64 CRPKSARSIRARHTD 80

Db 62 LRPARSARSVRAQRHTD 78

RESULT 12

US-08-167-641C-47
; Sequence 47, Application US/08167641C
; Patent No. 6033884
; GENERAL INFORMATION:
; APPLICANT: Woo, Savio L. C.
; APPLICANT: Smith, Louis C.
; APPLICANT: Cristiano, Richard J.
; APPLICANT: Gottchalk, Stephen
; TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
; METHODS OF USE
; NUMBER OF SEQUENCES: 65
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Lyon & Lyon
; STREET: 633 West Fifth Street
; CITY: Suite 4700
; STATE: Los Angeles
; COUNTRY: California
; ZIP: 90071-2086

ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/167,641C
FILING DATE: December 14, 1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 205/012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-167-641C-47

Query Match 61.3%; Score 367; DB 3; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
|||||
Db 2 TLGAEVLDAQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
QY 64 CKPTKSARSIRAQRHTD 80
:|:|||||
Db 62 LRPARSARSVRAQRHTD 78

RESULT 13
US-08-460-971A-47
Sequence 47, Application US/08460971A
Patent No. 6150168

GENERAL INFORMATION:
APPLICANT: Woo, Savio L.C.
APPLICANT: Smith, Louis C.
APPLICANT: Cristiano, Richard J.
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
TITLE OF INVENTION: GOTCHAIRK, STEPHEN
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lyon & Lyon
STREET: 633 West Fifth Street
CITY: Los Angeles
STATE: California
COUNTRY: U.S.A.
ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,971A
FILING DATE: June 5, 1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/167,641
FILING DATE: December 14, 1993
APPLICATION NUMBER: 07/855,389
FILING DATE: March 20, 1992
APPLICATION NUMBER: PCT/US93/02725
FILING DATE: March 19, 1993
ATTORNEY/AGENT INFORMATION:
NAME: Warburg, Richard J.
REGISTRATION NUMBER: 32,327
REFERENCE/DOCKET NUMBER: 212/063
TELECOMMUNICATION INFORMATION:
TELEPHONE: (213) 489-1600
TELEFAX: (213) 955-0440
TELEX: 67-3510
INFORMATION FOR SEQ ID NO: 47:
SEQUENCE CHARACTERISTICS:
LENGTH: 78 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-08-460-971A-47

Query Match 61.3%; Score 367; DB 4; Length 78;
Best Local Similarity 87.0%; Pred. No. 3.9e-35;
Matches 67; Conservative 3; Mismatches 7; Indels 0; Gaps 0;

QY 4 TLGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRRLEMYCVR 63
|||||
Db 2 TLGAEVLDAQFVCGDRGFYFNKPTGYGSSRRRAPQTGIVDECCFRSCDLRRLEMYCAP 61
QY 64 CKPTKSARSIRAQRHTD 80
:|:|||||
Db 62 LRPARSARSVRAQRHTD 78

RESULT 14
US-08-462-040-47
Sequence 47, Application US/08462040
Patent No. 6177554

GENERAL INFORMATION:
APPLICANT: Woo, Savio L.C.
APPLICANT: Smith, Louis C.
APPLICANT: Cristiano, Richard J.
APPLICANT: GOTCHAIRK, STEPHEN
TITLE OF INVENTION: NUCLEIC ACID TRANSPORTER SYSTEMS AND
TITLE OF INVENTION: METHODS OF USE
NUMBER OF SEQUENCES: 65
CORRESPONDENCE ADDRESS:
ADDRESSEE: Lyon & Lyon
STREET: 633 West Fifth Street
CITY: Los Angeles
STATE: California
COUNTRY: U.S.A.
ZIP: 90071-2066
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FASTSEQ for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/462,040
FILING DATE: June 5, 1995
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/167,641
FILING DATE: December 14, 1993

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; MOLECULE TYPE: protein
US-07-953-230A-9

Query Match          59.9%; Score 359; DB 1; Length 176;
Best Local Similarity 67.3%; Pred. No. 8.2e-34;
Matches 68; Conservative 8; Mismatches 25; Indels 0; Gaps 0;

QY      1  GPETLCAELVDALQFVCGPRGFENKPTVVYGSSIRRAPQTGIYDECCFRSCDLRRLEMY 60
        | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db       45  GPETLCAELVDLTQFVGEGRGFFSKPTGYGSPSSRSHNGIVDECCFQSCELRRLEMY 104

QY      61  CVRCCKPTKSARSIRAQRHTDMPKTQSQPLSTHKKRLQRR 101
        | _ | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
Db      105  CAPVKSGKAARSVRAQRHTDMPTPKVSTAVQSVDRTGTERR 145

Search completed: October 25, 2002, 16:00:05
Job time : 11.0301 secs
```


GenCore version 5.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:55:02 ; Search time 12.7048 Seconds
(without alignments)
839.517 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPTLCGAEIYDALQVFCGP.....THKKRLQRRKRGSTLEEHK 111

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

Archived: 283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 283138

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR71.*
1: pir1.*
2: pir2.*
3: pir3.*
4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	592	98.8	133	2 A40912	insulin-like growt
2	571	95.3	159	2 A26859	insulin-like growt
3	536	89.5	181	2 A27804	insulin-like growt
4	464	77.5	127	2 B40912	insulin-like growt
5	464	77.5	195	1 IGHU1B	insulin-like growt
6	443	74.0	153	2 B27804	insulin-like growt
7	440	73.5	127	2 A25540	insulin-like growt
8	423	70.6	137	1 IGGP1	insulin-like growt
9	423	70.6	137	2 A36552	insulin-like growt
10	423	70.6	153	1 IGHU1	insulin-like growt
11	423	70.6	154	2 JC2483	insulin-like growt
12	418	69.8	122	2 PN0622	insulin-like growt
13	418	69.8	153	1 IGB01	insulin-like growt
14	418	69.8	153	2 S12825	insulin-like growt
15	410	68.4	138	2 S22878	insulin-like growt
16	410	68.4	154	2 A33390	insulin-like growt
17	384	64.1	153	2 A41399	insulin-like growt
18	376.5	62.9	153	2 A36079	insulin-like growt
19	362.5	60.5	161	2 C54270	insulin-like growt
20	361	60.3	155	2 C44012	insulin-like growt
21	361	60.3	176	2 A41396	insulin-like growt
22	361	60.3	188	2 A54270	insulin-like growt
23	361	60.3	188	2 B54270	insulin-like growt
24	360	60.1	149	2 D54270	insulin-like growt
25	359	59.9	176	2 A46244	insulin-like growt
26	279.5	46.7	126	2 S66485	insulin-like growt
27	279	46.6	193	2 A53697	insulin-like growt
28	249	41.6	214	2 B48244	insulin-like growt
29	233	38.9	155	1 IGH02	insulin-like growt

30	232	38.7	179	2 S04858	insulin-like growt
31	224	37.4	187	2 T10897	insulin-like growt
32	223	37.2	139	2 A38612	insulin-like growt
33	222	37.1	181	2 B60738	insulin-like growt
34	221	36.9	180	1 IGHU2	insulin-like growt
35	219.5	36.6	183	2 S02423	insulin-like growt
36	216	36.1	128	2 I57671	insulin-like growt
37	215	35.9	93	2 I53642	insulin-like growt
38	212	35.4	180	2 A24913	insulin-like growt
39	211.5	35.3	183	2 I67610	insulin-like growt
40	209.5	35.0	180	1 IGR2	insulin-like growt
41	204	34.1	210	2 S66484	insulin-like growt
42	184.5	30.8	79	2 I51240	insulin-like growt
43	181	30.2	66	2 A60740	insulin-like growt
44	159	26.5	44	2 A34049	insulin-like growt
45	152.5	25.5	50	1 INFIS	insulin - shorthor

ALIGNMENTS

RESULT 1

A40912
insulin-like growth factor I precursor form 1 - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: A40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A>Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyrib
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: A40912
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-133 <R0>
A:Cross-references: GB:M15480; NID:g204749; PIDN:AAA41385.1; PID:g204750
C:Superfamily: insulin

Query Match 98.8%; Score 592; DB 2; Length 133;
Best Local Similarity 99.1%; Pred. No. 7.2e-53;
Matches 110; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY	1	GPTLCGAEIYDALQVFCGPGRFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLEY	60
DB	23	GPTLCGAEIYDALQVFCGPGRFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLEY	82
QY	61	CVRCKPTKSARSRAQRHTDMPKTSQPLSTHKKRLQRRKRGSTLEEHK	111
DB	83	CVRCKPTKSARSRAQRHTDMPKTSQPLSTHKKRLQRRKRGSTLEEHK	133

RESULT 2

A26859
insulin-like growth factor IB precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 19-Nov-1988 #sequence_revision 19-Nov-1988 #text_change 16-Jul-1999
C:Accession: A26859
R:Shimatsu, A.; Rotwein, P.
Nucleic Acids Res. 15, 7196, 1987
A>Title: Sequence of two rat insulin-like growth factor I mRNAs differing within the
A:Reference number: A26859; MUID:88015572
A:Accession: A26859
A:Molecule type: mRNA
A:Residues: 1-159 <SHI>
A:Cross-references: GB:X06107; GB:M32260; GB:Y00429; NID:g56424; PIDN:CAA29480.1; PID
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor

Query Match 95.3%; Score 571; DB 2; Length 159;
Best Local Similarity 96.4%; Pred. No. 1.1e-50;
Matches 107; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGSTLEEHK 111
| |||||
Db 109 CAPLKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGSTLEEHK 159

RESULT 3
A27804
insulin-like growth factor I precursor - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 09-Jun-1988 #sequence_revision 09-Jun-1988 #text_change 16-Jul-1999
C:Accession: A27804; I65202
R:Shimatsu, A.; Rotwein, P.
J. Biol. Chem. 262, 7894-7900, 1987
A:Title: Mosaic evolution of the insulin-like growth factors. Organization, sequence, and
A:Reference number: A27804; MUID:87222423
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-181 <SHI>
Cross-references: GB:M15650; GB:J02743; NID:g204296; PIDN:AAA41214.1; PID:g204299
R:Roberts, C.F.
Biochem. Biophys. Res. Commun. 146, 1154-1159, 1987
A:Title: Rat IGF-I cDNA's contain multiple 5'-untranslated regions.
A:Reference number: I52218; MUID:87298553
A:Accession: I65202
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-27 <RES>
A:Cross-references: GB:M17594; NID:g204759; PIDN:AAA41390.1; PID:g204760
C:Superfamily: insulin
C:Keywords: alternative splicing

Query Match 89.5%; Score 536; DB 2; Length 181;
Best Local Similarity 94.3%; Pred. No. 4.5e-47;
Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||
Db 49 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGST 106
| |||||
Db 109 CAPLKPTKSARSIRAQRHTDMPKTKSOPLSLTHKKRKLQRRKRGES 154

RESULT 4
B40912
insulin-like growth factor I precursor form 2 - rat
C:Species: Rattus norvegicus (Norway rat)
C:Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 16-Jul-1999
C:Accession: B40912
R:Roberts Jr., C.T.; Lasky, S.R.; Lowe Jr., W.L.; Seaman, W.T.; LeRoith, D.
Mol. Endocrinol. 1, 243-248, 1987
A:Title: Molecular cloning of rat insulin-like growth factor I complementary deoxyribonu-
c tissues.
A:Reference number: A40912; MUID:88288198
A:Accession: B40912
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-127 <ROB>
A:Cross-references: GB:M15481; NID:g204753; PIDN:AAA41387.1; PID:g204754
C:Superfamily: insulin

Query Match 77.5%; Score 464; DB 2; Length 127;
Best Local Similarity 98.8%; Pred. No. 6.5e-40;
Matches 85; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
|||||

Db 23 GPTLCGAELVDALQFVCGPRGRFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTKS 86
|||||
Db 83 CVRCKPTKSARSIRAQRHTDMPKTKS 108
RESULT 5
IGHU1B
insulin-like growth factor I precursor, splice form B [validated] - human
N:Alternate names: IGF-IB; somatomedin C
N:Contains: insulin-like growth factor IB-EI amide
C:Species: Homo sapiens (man)
C:Date: 30-Jun-1987 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A01611; A26181; S30540; B48960; A42664
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A01611
A:Molecule type: DNA
A:Residues: 1-195 <ROT1>
A:Cross-references: GB:M14155; NID:g183106; PIDN:AAA52537.1; PID:g183109
R:Rotwein, P.
Proc. Natl. Acad. Sci. U.S.A. 83, 77-81, 1986
A:Title: Two insulin-like growth factor I messenger RNAs are expressed in human liver
A:Reference number: A26181; MUID:86094355
A:Accession: A26181
A:Molecule type: mRNA
A:Residues: 1-195 <ROT2>
A:Cross-references: GB:M11568; NID:g183111; PIDN:AAA52539.1; PID:g183112
R:Sandberg Nordqvist, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.
submitted to the EMBL Data Library, November 1990
A:Description: Nucleotide sequence of the human fetal brain IGF-1b.
A:Reference number: S30540
A:Accession: S30540
A:Molecule type: mRNA
A:Residues: 1-195 <SAN>
A:Cross-references: EMBL:X56774; NID:g32991; PIDN:CAA40093.1; PID:g32992
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumor
A:Reference number: A48960; MUID:93265440
A:Accession: B48960
A:Molecule type: mRNA
A:Residues: 1-195 <SA2>
A:Cross-references: GB:X56774; GB:S61860; NID:g32991; PIDN:CAA40093.1; PID:g32992
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence modified after extraction from NCBI backbone
A:Note: the authors translated the codon CAG for residues 124 and 133 as Glu
R:Siegfried, J.M.; Kasprzyk, P.G.; Treston, A.M.; Mulshine, J.L.; Quinn, K.A.; Cuttitt
Proc. Natl. Acad. Sci. U.S.A. 89, 8107-8111, 1992
A:Title: A mitogenic peptide amide encoded within the E peptide domain of the insulin
A:Reference number: A42664; MUID:92390398
A:Contents: annotation; IBE-1; amidated carboxyl end
C:Comment: For an alternative splice form, see PIR:IGHU1.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; amidated carboxyl end; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status predicted <MAT>
F:49-77/Domain: insulin chain B-like #status predicted <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:90-110/Domain: insulin chain A-like #status predicted <CHA>
F:111-118/Domain: D peptide #status predicted <CHD>
F:119-195/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:151-172/Product: insulin-like growth factor IB-EI amide #status predicted <MA2>

Endocrinology 122, 22-27, 1988.

A:Title: Isolation and characterization of insulin-like growth factor I (somatomedin A):Reference number: A61096; MUID:88082445

A:Accession: A61096

A:Molecule type: protein

A:Residues: 49-53,'X',55-65 <AN>

C:Superfamily: Insulin

C:Keywords: alternative splicing; growth factor

F:49-118/Product: insulin-like growth factor I #status experimental <ILG>

Query Match 74.0%; Score 443; DB 2; Length 153;

Best Local Similarity 95.3%; Pred.No.1e-37; Indels 0; Gaps 0;

Matches 82; Conservative 0; Mismatches 4;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
|||||
Db 49 GPTLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTQK 86
| |||||
Db 109 CAPLKPTKSARSIRAQRHTDMPKTQK 134

RESULT 7

A25540

Insulin-like growth factor IA precursor - mouse

N:Alternate names: IGF-IA; somatomedin C

C:Species: Mus musculus (house mouse)

C:Date: 30-Jun-1988 #sequence.revision 30-Jun-1988 #text_change 16-Jul-1999

C:Accession: A25540; I55295; I59090; B25540

R:Bell, G.I.; Stempien, M.W.; Fong, N.M.; Rall, L.B.

Nucleic Acids Res. 14, 7873-7882, 1986

A:Title: Sequences of liver cDNAs encoding two different mouse insulin-like growth factor A:Reference number: A93643; MUID:87040760

A:Accession: A25540

A:Molecule type: mRNA

A:Residues: 1-127 <BEL>

A:Cross-references: GB:X04480; NID:g51801; PIDN:CAA28168.1; PID:g51802

R:Tollfelsen, S.E.; Lajbara, R.; McCusker, R.H.; Clemmons, D.R.; Rotwein, P.

J. Biol. Chem. 264, 13810-13817, 1989

A:Title: Insulin-like growth factors (IGF) in muscle development. Expression of IGF-I A:Reference number: I55295; MUID:89340472

A:Accession: I55295

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 <RES>

A:Cross-references: GB:M28139; NID:g341835; PIDN:AAA74553.1; PID:g550489

R:Mathews, L.S.; Norstedt, G.; Palmiter, R.D.

Proc. Natl. Acad. Sci. U.S.A. 83, 9343-9347, 1986

A:Title: Regulation of insulin-like growth factor I gene expression by growth hormone A:Reference number: I59090; MUID:87092249

A:Accession: I59090

A:Status: preliminary; translated from GB/EMBL/DBJ

A:Molecule type: DNA

A:Residues: 49-108 <RE2>

A:Cross-references: GB:M14983; NID:g194495; PIDN:AAA37925.1; PID:g194496

C:Genetics:

A:Gene: igf1

C:Superfamily: insulin

C:Keywords: alternative splicing; growth factor

F:1-22/Domain: signal sequence #status predicted <SIG>

F:23-127/Product: insulin-like growth factor IA (active) #status predicted <MAT>

F:23-51/Domain: insulin chain B-like #status predicted <DOB>

F:52-63/Domain: insulin connecting C peptide-like #status predicted <DOC>

F:64-84/Domain: insulin chain A-like #status predicted <DOA>

F:85-92/Domain: D peptide #status predicted <DOB>

F:93-127/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CTP>

Query Match 73.5%; Score 440; DB 2; Length 127;

Best Local Similarity 94.2%; Pred.No.1.7e-37; Indels 0; Gaps 0;

Matches 81; Conservative 1; Mismatches 4;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60

Db 23 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 83 CAPLKPTKAARSIRAQRHTDMPKTK 108

RESULT 8

IGG1

insulin-like growth factor I precursor - guinea pig
C:Species: Cavia porcellus (guinea pig)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 07-Nov-1997
C:Accession: S12719
R:Ball, G.I.; Stempien, M.M.; Fong, N.M.; Seino, S.
Nucleic Acids Res. 18, 4275, 1990
A:Title: Sequence of a cDNA encoding guinea pig IGF-I.
A:Reference number: S12719; MUID:90332447
A:Accession: S12719
A:Molecule type: mRNA
A:Residues: 1-137 <BEL>
A:Cross-references: EMBL:X52951
Note: it is uncertain whether Met-1 or Met-8 is the initiator
Superfamily: insulin
C:Keywords: glycoprotein; growth factor; plasma
F:1-32/Domain: signal sequence #status predicted <SIG>
F:33-102/Product: insulin-like growth factor I #status predicted <MAT>
F:33-61/Domain: insulin chain B-like #status predicted <CHB>
F:62-73/Domain: insulin connecting C peptide-like #status predicted <CHC>
F:74-94/Domain: insulin chain A-like #status predicted <CHA>
F:95-102/Domain: D peptide #status predicted <CHD>
F:103-137/Domain: carboxyl-terminal propeptide (E peptide) #status predicted <CHE>
F:124/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 70.6%; Score 423; DB 1; Length 137;

Best Local Similarity 90.7%; Pred. No. 9.9e-36;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 92

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86

Db 93 CAPLKPAKSARSIRAQRHTDMPKTK 118

RESULT 9

A36552

insulin-like growth factor la precursor - human

C:Species: Homo sapiens (man)

C:Date: 12-Apr-1991 #sequence_revision 12-Apr-1991 #text_change 16-Jul-1999

C:Accession: A36552

R:Tobin, G.; Yee, D.; Bruenner, N.; Rotwein, P.

Mol. Endocrinol. 4, 1914-1920, 1990

A:Title: A novel human insulin-like growth factor I messenger RNA is expressed in normal

A:Reference number: A36552; MUID:91187000

A:Accession: A36552

A>Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-137 <TOB>

A:Cross-references: GB:M37484; NID:g184833; PIDN:AAA52789.1; PID:g184834

C:Superfamily: insulin

Query Match

Best Local Similarity 70.6%; Score 423; DB 2; Length 137;

Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 33 GPTLCGAELVDALQFVCGRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRLLEY 92

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86

Db 93 CAPLKPAKSARSIRAQRHTDMPKTK 118

RESULT 10

IGHU1

insulin-like growth factor I precursor, splice form A [validated] - human
N:Alternate names: IGF-I long splice form precursor; IGF-IA; somatomedin C
C:Species: Homo sapiens (man)
C:Date: 24-Apr-1984 #sequence_revision 30-Jun-1987 #text_change 31-Dec-2000
C:Accession: A92581; A23614; A93321; J0571; A23622; A92226; A60483; S30519; A48960;
R:Rotwein, P.; Pollock, K.M.; Didier, D.K.; Krivi, G.G.
J. Biol. Chem. 261, 4828-4832, 1986
A:Title: Organization and sequence of the human insulin-like growth factor I gene. A1
A:Reference number: A92581; MUID:86168194
A:Accession: A92581
A:Molecule type: DNA
A:Residues: 1-153 <ROT>
A:Cross-references: GB:M14156; NID:g183107; PIDN:AAA52538.1; PID:g183110
R:de Pagter-Holthuizen, P.; van Schaik, F.M.A.; Verduijn, G.M.; van Ommen, G.J.B.; Bo
FEBS Lett. 195, 179-184, 1986
A:Title: Organization of the human genes for insulin-like growth factors I and II.
A:Reference number: A91356; MUID:86108862
A:Accession: A23614
A:Molecule type: DNA
A:Residues: 24-153 <DEP>
A:Cross-references: GB:X03420; GB:X00362; NID:g33020; PIDN:CAA27152.1; PID:g33021; GB
R:Jansen, M.; van Schaik, F.M.A.; Ricker, A.T.; Bullock, B.; Woods, D.E.; Gabbay, K.H.
Nature 306, 609-611, 1983
A:Title: Sequence of cDNA encoding human insulin-like growth factor I precursor.
A:Reference number: A93321; MUID:84068210
A:Accession: A93321
A:Molecule type: mRNA
A:Residues: 1-153 <VAN>
A:Cross-references: GB:X00173; NID:g33015; PIDN:CAA24998.1; PID:g33016
A:Note: Met-24 is proposed as a likely initiator
R:Steenberg, P.H.; Koonen-Reemst, A.M.C.B.; Cleutjens, C.B.J.M.; Sussenbach, J.S.
Biochem. Biophys. Res. Commun. 175, 507-514, 1991
A:Title: Complete nucleotide sequence of the high molecular weight human IGF-I mRNA.
A:Reference number: J0571; MUID:91207342
A:Accession: J0571

A:Molecule type: mRNA

A:Residues: 1-153 <STE>

A:Cross-references: EMBL:X57025; NID:g33007; PIDN:CAA40342.1; PID:g33008

R:Le Bouc, Y.; Dreyer, D.; Jaeger, F.; Binoux, M.; Sondermeyer, P.

FEBS Lett. 196, 108-112, 1986

A:Title: Complete characterization of the human IGF-I nucleotide sequence isolated fr

A:Reference number: A23622; MUID:86108910

A:Accession: A23622

A:Molecule type: mRNA

A:Residues: 1-153 <LEB>

A:Cross-references: GB:M27544; NID:g184829; PIDN:AAA52787.1; PID:g305927

R:Rinderknecht, E.; Humbel, R.E.

J. Biol. Chem. 253, 2769-2776, 1978

A:Title: The amino acid sequence of human insulin-like growth factor I and its struct

A:Reference number: A92226; MUID:78130171

A:Accession: A92226

A:Molecule type: protein

A:Residues: 49-118 <RIN>

R:Karey, K.P.; Marquardt, H.; Sirbasku, D.A.

Blood 74, 1084-1092, 1989

A:Title: Human platelet-derived mitogens. Identification of insulinlike growth factor

A:Reference number: A60483; MUID:89323462

A:Accession: A60483

A:Molecule type: protein

A:Residues: 49-53, 'X', 55-65, 'X', 67-75 <KAR>

A:Experimental source: platelet lysate

R:Nordqvist Sandberg, A.C.; Stahlbom, P.A.; Lake, M.; Sara, V.R.

submitted to the EMBL Data Library, November 1990

A:Description: Nucleotide sequence of the human fetal brain IGF-la.

A:Reference number: S30519

A:Accession: S30519

A>Status: preliminary

A:Molecule type: mRNA
A:Residues: 1-153 <NOR>
A:Cross-references: EMBL:X56773; NID:932989; PIDN:CAA40092.1; PID:g32990
R:Sandberg-Nordqvist, A.C.; Stahlbom, P.A.; Reinecke, M.; Collins, V.P.; von Holst, H.;
Cancer Res. 53, 2475-2478, 1993
A:Title: Characterization of insulin-like growth factor 1 in human primary brain tumors.
A:Reference number: A48960; MUID:93265440
A:Accession: A48960
A:Molecule type: mRNA
A:Residues: 1-123, 'E', 125-132, 'E', 134-153 <SAN>
A:Cross-references: GB:X56773; GB:S61841; NID:g32989
A:Experimental source: anaplastic oligodendroglioma
A:Note: sequence extracted from NCBI backbone (NCBIN:133056, NCBI:P133057)
A:Note: sequence inconsistent with the nucleotide translation
R:Hall, L.B.; Scott, J.; Bell, G.I.
Meth. Enzymol. 146, 239-248, 1987
A:Title: Human insulin-like growth factor I and II messenger RNA: isolation of complementary cDNA clones.
A:Reference number: 157044; MUID:88065102
A:Accession: 157044
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 24-153 <RAL>
A:Cross-references: GB:M29644; NID:g183119; PIDN:AAA52543.1; PID:g183120
A:Comment: The insulin-like growth factors, isolated from plasma, are structurally and functionally distinct.
C:Comment: For an alternative splice form, see PIR:IGHU1B.
C:Genetics:
A:Gene: GDB:IGF1
A:Cross-references: GDB:120081; OMIM:147440
A:Map position: 12q22-12q24.1
A:Introns: 21/3; 74/1; 134/3
C:Superfamily: insulin
C:Keywords: alternative splicing; growth factor; plasma
F:1-21/Domain: signal sequence #status predicted <SIG>
F:22-48/Domain: propeptide #status predicted <PRO>
F:49-118/Product: insulin-like growth factor I #status experimental <MAT>
F:49-77/Domain: insulin chain B-like #status experimental <CHB>
F:78-89/Domain: insulin connecting C peptide-like #status experimental <CHC>
F:90-110/Domain: insulin chain A-like #status experimental <CHA>
F:111-118/Domain: D peptide #status experimental <CHD>
F:119-153/Domain: carboxyl-terminal propeptide (E peptide)
F:54-96, 66-109, 95-100/Disulfide bonds: #status predicted <CPRO>
Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 1.le-35;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Db 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 60
49 GPETLCGAELVDALQFVCGDRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 108
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLPAKSARSVRAQRHTDMPKTK 134
RESULT 11
JC2483
Insulin-like growth factor-I precursor - goat
C:Species: Capra aegagrus hircus (domestic goat)
C:Date: 16-Mar-1995 #sequence_revision 26-May-1995 #text_change 17-Mar-1999
C:Accession: JC2483
R:Mikawa, S.; Yoshikawa, G.; Aoki, H.; Yamano, Y.; Sakai, H.; Komano, T.
Biosci. Biotechnol. Biochem. 59, 87-92, 1995
A:Title: Dynamic aspects in the expression of the goat insulin-like growth factor-I (IGF-I) during fetal development.
A:Reference number: JC2483; MUID:95201385
A:Accession: JC2483
A:Molecule type: mRNA
A:Residues: 1-154 <MIK>
A:Cross-references: GB:S11378; DBJ:D26116; DBJ:D26117; DBJ:D26118; DBJ:D26119
C:Genetics:
A:Introns: 21/3; 75/1; 135/3
C:Superfamily: insulin
F:1-49/Domain: signal sequence #status predicted <SIG>

F:50-119/Product: insulin-like growth factor-I #status predicted <MAT>
F:120-154/Region: E domain
Query Match 70.6%; Score 423; DB 2; Length 154;
Best Local Similarity 90.7%; Pred. No. 1.le-35;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;
Qy 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 60
Db 50 GPETLCGAELVDALQFVCGDRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 109
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 110 CAPLPAKSARSVRAQRHTDMPKTK 135
RESULT 12
PN0622
Insulin-like growth factor Ia precursor - dog (fragment)
C:Species: Canis lupus familiaris (dog)
C:Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 07-May-1999
C:Accession: PN0622
R:Delafontaine, P.; Lou, H.; Harrison, D.G.; Bernstein, K.E.
Gene 130, 305-306, 1993
A:Title: Sequence of a cDNA encoding dog insulin-like growth factor I.
A:Reference number: PN0622; MUID:93366192
A:Accession: PN0622
A:Molecule type: mRNA
A:Residues: 1-122
C:Comment: This protein is a potent inducer of DNA synthesis in multiple cell types,
C:Genetics:
A:Gene: IGF1a
C:Superfamily: insulin
C:Keywords: growth factor
F:20-89/Product: insulin-like growth factor Ia (fragment) #status predicted <MAT>
Query Match 69.8%; Score 418; DB 2; Length 122;
Best Local Similarity 89.5%; Pred. No. 2.8e-35;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;
Qy 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 60
Db 20 GPETLCGAELVDALQFVCGDRGFYFNKPTVYGSSTRRAPQTGIVDECCFRSCDLRLLEY 79
Qy 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 80 CAPLPAKSARSVRAQRHTDMPKTK 105
RESULT 13
IGB01
Insulin-like growth factor IA precursor - bovine (fragment)
N:Alternate names: IGF-I; somatomedin C
C:Species: Bos primigenius taurus (cattle)
C:Date: 31-Mar-1988 #sequence_revision 28-Apr-1995 #text_change 18-Jun-1999
C:Accession: SI2672; A25623; S00465
R:Fotsis, T.; Murphy, C.; Gannon, F.
Nucleic Acids Res. 18, 676, 1990
A:Title: Nucleotide sequence of the bovine insulin-like growth factor 1 (IGF-1) and 1
A:Reference number: SI2672; MUID:90175014
A:Accession: SI2672
A:Molecule type: mRNA
A:Residues: 1-153 <FOF>
A:Cross-references: EMBL:X15726; NID:9454; PIDN:CAA33746.1; PID:9455
A:Experimental source: liver
R:Honegger, A.; Humbel, R.E.
J. Biol. Chem. 261, 569-575, 1986
A:Title: Insulin-like growth factors I and II in fetal and adult bovine serum. Purifi
A:Reference number: A92585; MUID:86085881
A:Accession: A25623
A:Molecule type: protein
A:Residues: 49-118 <HON>
R:Francis, G.L.; Upton, F.M.; Ballard, F.J.; McNeil, K.A.; Wallace, J.C.

Search completed: October 25, 2002, 15:59:28
Job time : 12.7048 secs

GenCore version 5.1.1.3
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OM protein - protein search, using sw model

Run on: October 25, 2002, 15:52:51 ; Search time 6.68675 Seconds
(without alignments)
642.745 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPETLCGAEVDALQFVCGP.....THKKRKLORRKGSTLEEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters: 105224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_40.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	537	89.6	133	1	IGFB_MOUSE
2	536	89.5	181	1	IGFB_RAT
3	512	85.5	143	1	IGF1_RABIT
4	464	77.5	195	1	IGFB_HUMAN
5	443	74.0	153	1	IGFA_RAT
6	440	73.5	127	1	IGFA_MOUSE
7	423	70.6	130	1	IGF1_CAVPO
8	423	70.6	153	1	IGFA_HUMAN
9	423	70.6	154	1	IGF1_CAPHI
10	418	69.8	122	1	IGF1_CANFA
11	418	69.8	153	1	IGF1_PIG
12	418	69.8	154	1	IGF1_BOVIN
13	410	68.4	154	1	IGF1_SHEEP
14	384	64.1	124	1	IGF1_COTJA
15	384	64.1	153	1	IGF1_CHICK
16	376.5	62.9	153	1	IGF1_XENLA
17	369	61.6	81	1	IGF1_SUNMU
18	362	60.4	161	1	IGFA_CYPCA
19	362	60.4	161	1	IGFB_CYPCA
20	361	60.3	176	1	IGF1_ONCKI
21	359	59.9	176	1	IGF1_ONCMY
22	358	59.8	122	1	IGF1_HORSE
23	249	41.6	214	1	IGF2_ONCMY
24	233	38.9	155	1	IGF2_BOVIN
25	232	38.7	179	1	IGF2_SHEEP
26	224	37.4	181	1	IGF2_HORSE
27	223	37.2	139	1	IGF_MYXGL
28	222	37.1	181	1	IGF2_PIG
29	221.5	37.0	129	1	IGF2_MUSVI
30	221	36.9	180	1	IGF2_HUMAN
31	216	36.1	128	1	IGF2_CAVPO
32	212	35.4	180	1	IGF2_MOUSE
33	209.5	35.0	180	1	IGF2_RAT

34	203	33.9	66	1	IGF2_CHICK
35	152.5	25.5	50	1	INS_MYOSC
36	151.5	25.3	51	1	INS_GADCA
37	150	25.0	59	1	INS_HYDCO
38	148.5	24.8	51	1	INS1_BATSP
39	147	24.5	50	1	INS2_BATSP
40	146	24.4	51	1	INS_ZAODH
41	145	24.2	51	1	INS_ALDMT
42	143	23.9	51	1	INS_ANGAN
43	143	23.9	51	1	INS_CROAT
44	142	23.7	51	1	INS_CHIBR
45	142	23.7	51	1	INS_TRASC

ALIGNMENTS

RESULT 1

ID	IGFB_MOUSE	STANDARD;	PRT;	133 AA.
AC	P05018;			
DT	13-AUG-1987 (Rel. 05, Created)			
DT	13-AUG-1987 (Rel. 05, Last sequence update)			
DT	30-MAY-2000 (Rel. 39, Last annotation update)			
DE	Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).			
GN	IGF1 OR IGF-1.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.			
OX	NCBI_TaxID=10090;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=Liver;			
RX	MEDLINE=87040760; PubMed=3774549;			
RA	Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;			
RT	"Sequences of liver cDNAs encoding two different mouse insulin-like			
RT	growth factor I precursors."			
RL	Nucleic Acids Res. 14:7873-7882(1986).			
CC	-!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,			
CC	ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A			
CC	MUCH HIGHER GROWTH-PROMOTING ACTIVITY.			
CC	-!- SUBCELLULAR LOCATION: Secreted.			
CC	-!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P05017) AND			
CC	ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.			
CC	-!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.			
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration			
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CC	or send an email to license@isb-sib.ch).			
CC	EMBL; X04482; CAA28170.1; -			
DR	PIR; B25540; B25540.			
DR	HSSP; P05019; IGF1.			
DR	MGD; MGI:96432; Igf1.			
DR	InterPro; IPR000739; Insulin_IGF_relaxin.			
DR	Pfam; PF00049; Insulin; 1.			
DR	PRINTS; PR00276; INSULINA.			
DR	PRINTS; PR00277; INSULINB.			
DR	ProDom; PD001048; Insulin_IGF_relaxin; 1.			
DR	SMART; SM00078; IIGF; 1.			
DR	PROSITE; PS00262; INSULIN; 1.			
KW	Insulin family; Growth factor; Plasma; Alternative splicing; Signal.			
FT	SIGNAL 1 22			
FT	CHAIN 23 92			
FT	DOMAIN 23 51			
FT	DOMAIN 52 63			
FT	DOMAIN 64 84			
FT	DOMAIN 85 92			
FT	PROPEP 93 133			

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FT DISULFID 28 70 BY SIMILARITY.
FT DISULFID 40 83 BY SIMILARITY.
FT DISULFID 69 74 BY SIMILARITY.
SQ SEQUENCE 133 AA; 14915 MW; B8E5C05B8BD62502 CRC64;

Query Match 89.6%; Score 537; DB 1; Length 133;
Best Local Similarity 91.0%; Pred. No. 8.7e-52;
Matches 101; Conservative 2; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 23 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 82
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKRKLQRRRKGSTLEEKK 111
Db 83 CAPLKPTKAARSIRAQRHTDMPKTSQPLSTHNKTKLQRRRKGSTFEEHK 133

RESULT 2
IGFB_RAT
ID IGFB_RAT STANDARD; PRT; 181 AA.
AC P08024:
01-AUG-1988 (Rel. 08, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin).
GN IGF1 OR IGF-1.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RN SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RN SEQUENCE FROM N.A.
RX MEDLINE=88015572; PubMed=3658684;
RA Shimatsu A., Rotwein P.;
RT "Sequence of two rat insulin-like growth factor I mRNAs differing
RT within the 5' untranslated region.";
RL Nucleic Acids Res. 15:7196-7196(1987).
RN [3]
RN SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [4]
RN SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapp J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (AC P08025) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC
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CC or send an email to license@isb-sib.ch).
CC
DR EMBL; M15650; AAA41214.1;
DR EMBL; M15647; AAA41214.1; JOINED.
DR EMBL; M15648; AAA41214.1; JOINED.
DR EMBL; M15649; AAA41214.1; JOINED.
DR EMBL; X06107; CAA29480.1; ALT_SEQ.
DR EMBL; M15480; AAA41385.1; ALT_SEQ.
DR PIR; A27804; A27804.
DR PIR; A26859; A26859.
DR PIR; A32857; A32857.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 ?
FT PROPEP 7 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 181 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF. 2).
SQ SEQUENCE 181 AA; 20322 MW; 52BAB431875A1A06 CRC64;

Query Match 89.5%; Score 536; DB 1; Length 181;
Best Local Similarity 94.3%; Pred. No. 1.6e-51;
Matches 100; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 49 GPTLCGAEVLDAQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKRKLQRRRKGST 106
Db 109 CAPLKPTKSARSIRAQRHTDMPKTSQPLSTHKRKLQRRRKGES 154

RESULT 3
IGFI_RABIT
ID IGFI_RABIT STANDARD; PRT; 143 AA.
AC Q95222; O18846;
DT 01-NOV-1997 (Rel. 35, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFI OR IGF-1.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RN SEQUENCE FROM N.A. (ISOFORM IGF-IA).
RC STRAIN-ZIKA;
RA Flekna G., Brem G., Mueller M.;
RL Submitted (NOV-1996) to the EMBL/GenBank/DBJ databases.
RN [2]
RN SEQUENCE FROM N.A. (ISOFORM IGF-IB).
RC STRAIN-ZIKA; TISSUE=Liver;
RA Flekna G., Brem G., Mueller M.;
```

Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
 -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 -!- SUBCELLULAR LOCATION: Secreted.
 -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; IGF-IA AND IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING.
 -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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 EMBL; U75390; AAB48032.1; -.
 EMBL; AF022961; AAB80950.1; -.
 HSP; P05019; IGF1.
 InterPro; IPR000739; Insulin_IGF_relaxin.
 Pfam; PF00049; Insulin; 1.
 PRINTS; PR00276; INSULIN.
 PRINTS; PR00277; INSULIN.
 ProDom; PD001048; Insulin_IGF_relaxin; 1.
 SMART; SM00078; IIGF; 1.
 PROSITE; PS00262; INSULIN; 1.
 Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
 SIGNAL 1 32 POTENTIAL.
 FT CHAIN 33 102 INSULIN-LIKE GROWTH FACTOR I.
 FT PROPP 103 143 E PEPTIDE.
 FT DOMAIN 33 61 B.
 FT DOMAIN 62 73 C.
 FT DOMAIN 74 94 A.
 FT DOMAIN 95 102 D.
 FT DISULFID 38 80 BY SIMILARITY.
 FT DISULFID 50 93 BY SIMILARITY.
 FT DISULFID 79 84 BY SIMILARITY.
 FT VARSPIC 119 143 YPPSTNKKMKSQRRKRGSTFEHK -> EVHLKNTSRGSA
 GNKNYRM (IN ISOFORM IGF-IA).
 FT SEQUENCE 143 AA; 16091 MW; 819AF577800A1B1A CRC64;
 Query Match 85.5%; Score 512; DB 1; Length 143;
 Best Local Similarity 86.5%; Pred. No 5e-49;
 Matches 96; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

 1 GPTLCGAELVDALQVCGRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 60
 |||||
 33 GPTLCGAELVDALQVCGRGRFYFNKPTGYGSSRRAPQTGIVDECCFRSCDLRLLEY 92

 61 CVRCKTKSARSRAQRHTDMPKTSQPLSTHKKRKLQRRKRGSTLEEHK 111
 | |||
 93 CAPLKPAKARSRAQRHTDMPKTSQPLSTHKKRKLQRRKRGSTLEEHK 143

 RESULT 4
 IGF1_HUMAN STANDARD; PRT; 195 AA.
 ID IGF1_HUMAN
 AC P05019;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE Insulin-like growth factor IB precursor (IGF-IB) (Somatomedin C).
 GN IGF1 OR IBP1.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 SEQUENCE FROM N.A.
 RX MEDLINE=86168194; PubMed=2937782;
 RA Rotwein P., Pollock K.M., Didier D.K., Krivi G.G.;
 "Organization and sequence of the human insulin-like growth factor I

gene. Alternative RNA processing produces two insulin-like growth factor I precursor peptides.";
 J. Biol. Chem. 261:4828-4832(1986).
 [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86094355; PubMed=3455760;
 RA Rotwein P.;
 "Two insulin-like growth factor I messenger RNAs are expressed in human liver.";
 Proc. Natl. Acad. Sci. U.S.A. 83:77-81(1986).
 [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86108962; PubMed=3002851;
 de Pagter-Holthuisen P., van Schaik F.M.A., Verduijn G.M., van Cmmen G.J.B., Bouma B.N., Jansen M., Sussenbach J.S.;
 "Organization of the human genes for insulin-like growth factors I and II.";
 FEBS Lett. 195:179-184(1986).
 [4]
 RP SEQUENCE OF 22-50 FROM N.A.
 RX MEDLINE=8429593; PubMed=6382022;
 Dull T.J., Gray A., Hayflick J.S., Ullrich A.;
 "Insulin-like growth factor II precursor gene organization in relation to insulin gene family.";
 Nature 310:777-781(1984).
 [5]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=78130171; PubMed=632300;
 Rinderknecht E., Humbel R.E.;
 "The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin.";
 J. Biol. Chem. 253:2769-2776(1978).
 [6]
 RP 3D-STRUCTURE MODELING.
 RX MEDLINE=83210259; PubMed=6189745;
 Blundell T.L., Bedarke S., Humbel R.E.;
 "Tertiary structures, receptor binding, and antigenicity of insulinlike growth factors.";
 Fed. Proc. 42:2592-2597(1983).
 [7]
 RP STRUCTURE BY NMR.
 RX MEDLINE=91242464; PubMed=2036417;
 Cooke R.M., Harvey T.S., Campbell I.D.;
 "Solution structure of human insulin-like growth factor 1: a nuclear magnetic resonance and restrained molecular dynamics study.";
 Biochemistry 30:5484-5491(1991).
 [8]
 RP STRUCTURE BY NMR.
 RX MEDLINE=92316903; PubMed=1319992;
 Sato A., Nishimura S., Ohkubo T., Kyogoku Y., Koyama S., Kobayashi M., Yasuda T., Kobayashi Y.;
 "1H-NMR assignment and secondary structure of human insulin-like growth factor-I (IGF-I) in solution.";
 J. Biochem. 111:529-536(1992).
 [9]
 RP DISULFIDE BONDS.
 RX MEDLINE=89207850; PubMed=3242681;
 Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
 "Location of disulphide bonds in human insulin-like growth factors (IGFs) synthesized by recombinant DNA technology.";
 Biomed. Environ. Mass Spectrom. 16:3-8(1988).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA, ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-IA AND IGF-IB ARE PRODUCED BY ALTERNATIVE SPLICING.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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EMBL: M14155; AAA52537.1; -
EMBL: M12659; AAA52537.1; JOINED.
EMBL: M14153; AAA52537.1; JOINED.
EMBL: M14154; AAA52537.1; JOINED.
EMBL: M11568; AAA52539.1; -
EMBL: M13563; CAA27250.1; ALTSQ.
EMBL: M13420; CAA27152.1; -
EMBL: M13421; CAA27153.1; -
EMBL: M13422; CAA27154.1; -
PIR: A01611; IGHUIB.
PIR: A23614; A23614.
PIR: A26181; A26181.
PIR: S30540; S30540.
PDB: 1GFI; 15-OCT-94.
PDB: 2GFI; 15-APR-93.
PDB: 3GFI; 15-APR-93.
MIM: 147440; -
MIM: 265850; -
InterPro: IPR000739; Insulin_IGF_relaxin.
Pfam: PF00049; Insulin; 1.
PRINTS: PR00276; INSULIN.
PRINTS: PR00277; INSULIN.
ProDom: PD001048; Insulin_IGF_relaxin; 1.
SMART: SM00078; IIGF; 1.
PROSITE: PS00262; INSULIN; 1.
Insulin family; Growth factor; 3D-structure; Plasma;
Alternative splicing; Signal.
FT SIGNAL 1 21
FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 195
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 65
FT TURN 66 68
FT STRAND 78 81
FT TURN 79 81
FT STRAND 82 82
FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT STRAND 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 195 AA; 21841 MW; E88A8CFBD1CD1873 CRC64;

Query Match 77.5%; Score 464; DB 1; Length 195;
Best Local Similarity 85.3%; Pred.No. 1.2e-43;
Matches 87; Conservative 3; Mismatches 12; Indels 0; Gaps 0;

QY 1 GPTLGAELVDALQVCGPRGFYFNKPTVYSGSIRRAPQTGIVDECCFRSCDLRLRLMY 60
Db 49 GPTLGAELVDALQVCGDRGFRYFNKPTVYSGSSRRAPQTGIVDECCFRSCDLRLRLMY 108
QY 61 CVRCKPTKSARSRAQRHTDMPKTSQPLSHKKRKLQRR 102
Db 109 CAPLKPAKSARSVRAQRHTDMPKTSQPLSHKKRKLQRR 150

RESULT 5
IGFA_RAT
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ID IGFA_RAT STANDARD; PRT; 153 AA.
AC P08025;
DT 01-AUG-1988 (rel. 08, Created)
DT 01-FEB-1991 (rel. 17, Last sequence update)
DE 30-MAY-2000 (rel. 39, Last annotation update)
GN Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
OS IGF1 OR IGF-1.
OC Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors. Organization,
RT sequence, and expression of the rat insulin-like growth factor I
RT gene.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=88003970; PubMed=3652906;
RA Casella S.J., Smith E.P., van Wyk J.J., Joseph D.R., Hynes M.A.,
RA Hoyt E.C., Lund P.K.;
RT "Isolation of rat testis cDNAs encoding an insulin-like growth factor
RT I precursor.";
RL DNA 6:325-330(1987).
RN [3]
RP SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat
RT insulin-like growth factor-I mRNA";
RL Agric. Biol. Chem. 54:1599-1601(1990).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE=89127259; PubMed=3221878;
RA Roberts C.T., Lasky S.R., Lowe W.L., Seaman W.T., Leroith D.;
RT "Structure of the rat insulin-like growth factor II transcriptional
RT unit: heterogeneous transcripts are generated from two promoters by
RT use of multiple polyadenylation sites and differential ribonucleic
RT acid splicing.";
RL Mol. Endocrinol. 2:1115-1126(1988).
RN [5]
RP SEQUENCE OF 46-153 FROM N.A.
RX MEDLINE=87246437; PubMed=3595538;
RA Murphy L.J., Bell G.I., Duckworth M.L., Friesen H.G.;
RT "Identification, characterization, and regulation of a rat
RT complementary deoxyribonucleic acid which encodes insulin-like growth
RT factor-I.";
RL Endocrinology 121:684-691(1987).
RN [6]
RP SEQUENCE OF 49-118.
RX MEDLINE=89174609; PubMed=2538424;
RA Tamura K., Kobayashi M., Ishii Y., Tamura T., Hashimoto K.,
RA Nakamura S., Niwa M., Zapf J.;
RT "Primary structure of rat insulin-like growth factor-I and its
RT biological activities.";
RL J. Biol. Chem. 264:5616-5621(1989).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS: ISOFORM IGF-IA (SHOWN HERE) AND
CC ISOFORM IGF-IB (AC P08024); ARE PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----

DR EMBL; X06043; CAA29436.1; -
DR EMBL; M15651; AAA41215.1; -
DR EMBL; M15647; AAA41215.1; JOINED.
DR EMBL; M15648; AAA41215.1; JOINED.
DR EMBL; M15649; AAA41215.1; JOINED.
DR EMBL; M17714; AAA41227.1; -
DR EMBL; M17335; AAA41386.1; ALT_INIT.
DR EMBL; M15481; AAA41387.1; ALT_INIT.
DR PIR; A27849; A27849.
DR PIR; JH0133; JH0133.
DR PIR; B27804; B27804.
DR PIR; A32857; A32857.
DR PIR; A28504; A28504.
DR HSP; P05019; IGFL.
InterPro: IPR000739; Insulin_IGF_relaxin.
Pfam: PF00049; Insulin; 1.
PRINTS; PR00276; INSULINA.
PRINTS; PR00277; INSULINB.
ProDom; PD001048; Insulin_IGF_relaxin; 1.
SMART; SM00078; IIGF; 1.
ProSITE; PS00262; INSULIN; 1.
Insulin family; Growth factor; Plasma; Alternative splicing; Signal.
FT SIGNAL 1 ?
FT PROPEP ? 48
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IA.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 153 E PEPTIDE.
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT CONFLICT 110 112 APL -> VRC (IN REF. 4).
SQ SEQUENCE 153 AA; 17079 MW; 966F3C0FA4EB3DE7 CRC64;

Query Match 74.0%; Score 443; DB 1; Length 153;
Best Local Similarity 95.3%; Pred. No. 1.8e-41;
Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60

|||||
49 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 108

61 CVRCKPKTSARSIRAPQHTDMPKTQK 86

109 CAPLKPCKTSARSIRAPQHTDMPKTQK 134

RESULT 6

ID IGFA_MOUSE STANDARD; PRT; 127 AA.
AC P05017;
DT 13-AUG-1987 (Rel. 05, Created)
DT 13-AUG-1987 (Rel. 05, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor IA precursor (IGF-IA) (Somatomedin).
GN IGFL OR IGF-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Liver;
RX MEDLINE=87040760; PubMed=3774549;
RA Bell G.I., Stempien M.M., Fong N.M., Rall L.B.;
RT "Sequences of liver cDNAs encoding two different mouse insulin-like
RT growth factor I precursors";
RL Nucleic Acids Res. 14:7873-7882(1986).

CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; ISOFORM IGF-IA (SHOWN HERE)
CC AND ISOFORM IGF-IB (AC P05018); ARE PRODUCED BY ALTERNATIVE
CC SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.

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CC or send an email to license@isb-sib.ch).
CC -----

DR EMBL; X04480; CAA28168.1; -

DR PIR; A25540; A25540.

DR HSP; P05019; IGFL.

DR MGD; MGI:96432; Igfl.

DR InterPro: IPR000739; Insulin_IGF_relaxin.

DR Pfam: PF00049; Insulin; 1.

DR PRINTS; PR00276; INSULINA.

DR PRINTS; PR00277; INSULINB.

DR ProDom; PD001048; Insulin_IGF_relaxin; 1.

DR SMART; SM00078; IIGF; 1.

DR PROSITE; PS00262; INSULIN; 1.

Insulin family; Growth factor; Plasma; Alternative splicing; Signal.

FT SIGNAL 1 22

FT CHAIN 23 92 INSULIN-LIKE GROWTH FACTOR IA.

FT DOMAIN 23 51 B.

FT DOMAIN 52 63 C.

FT DOMAIN 64 84 A.

FT DOMAIN 85 92 D.

FT PROPEP 93 127 E PEPTIDE.

FT DISULFID 28 70 BY SIMILARITY.

FT DISULFID 40 83 BY SIMILARITY.

FT DISULFID 69 74 BY SIMILARITY.

SQ SEQUENCE 127 AA; 14120 MW; 1054B8CAC72DC2D7 CRC64;

Query Match 73.5%; Score 440; DB 1; Length 127;
Best Local Similarity 94.2%; Pred. No. 3.1e-41;
Matches 81; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 60

|||||
23 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPQTGIVDECCFRSCDLRLLEY 82

QY 61 CVRCKPKTSARSIRAPQHTDMPKTQK 86

109 CAPLKPCKTSARSIRAPQHTDMPKTQK 108

RESULT 7

ID IGFL_CAVPO STANDARD; PRT; 130 AA.
AC P17647;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-AUG-1990 (Rel. 15, Last sequence update)
DT 01-FEB-1994 (Rel. 28, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGFI.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pancreas;
RX MEDLINE=90332447; PubMed=2377480;
RA Bell G.I., Stempien M.M., Fong N.M., Scino S.;
RT "Sequence of a cDNA encoding guinea pig IGF-I";

RT growth factor-I (IGF-I) in solution.;"
RL J. Biochem. 111:529-536(1992).
RN [12]
RX DISULFIDE BONDS.
MEDLINE=89207850; PubMed=3242681;
RA Raschdorf F., Dahinden R., Maerki W., Richter W.J., Merryweather J.P.;
RT "Location of disulphide bonds in human insulin-like growth factors
(IGFs) synthesized by recombinant DNA technology.;"
RL Biomed. Environ. Mass Spectrom. 16:3-8(1988).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- ALTERNATIVE PRODUCTS: TWO FORMS OF IGF-1, IGF-1A AND IGF-1B ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; M14156; AAA52538.1; -;
DR EMBL; M12659; AAA52538.1; JOINED.
DR EMBL; M14153; AAA52538.1; JOINED.
DR EMBL; M14154; AAA52538.1; JOINED.
DR EMBL; X00173; CAA24998.1; -;
DR EMBL; X03563; CAA27250.1; ALT_SEQ.
DR EMBL; X27544; AAA52787.1; -;
DR EMBL; X03420; CAA27152.1; -;
DR EMBL; X03421; CAA27153.1; -;
DR EMBL; X03422; CAA27154.1; -;
DR EMBL; X57025; CAA40342.1; -;
DR EMBL; X56773; CAA40092.1; -;
DR PIR; A01610; IGHU1.
DR PIR; A23614; A23614.
DR PIR; A23622; A23622.
DR PIR; S30519; S30519.
DR PDB; 1GF1; 15-OCT-94.
DR PDB; 2GF1; 15-APR-93.
DR PDB; 3GF1; 15-APR-93.
DR MIM; 147440; -;
DR MIM; 265850; -;
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; 3D-structure;
KW Alternative splicing; Signal; POTENTIAL.
FT SIGNAL 1 21
FT PROPEP 22 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
FT STRAND 51 51
FT TURN 55 55
FT HELIX 56 65
FT TURN 66 68
FT STRAND 78 78
FT TURN 79 81
FT STRAND 82 82

FT TURN 87 88
FT HELIX 91 96
FT TURN 97 97
FT TURN 98 98
FT TURN 102 104
FT HELIX 106 108
FT TURN 109 109
SQ SEQUENCE 153 AA; 17026 MW; C6ECD92DCA9B37BC CRC64;

Query Match 70.6%; Score 423; DB 1; Length 153;
Best Local Similarity 90.7%; Pred. No. 2.8e-39;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTTCGAEVLVALQVCGPRGFYFNKPTVYGVSSIRRAQTGIVDECCFRSCDLRLLEY 60
|||||
DB 49 GPTTCGAEVLVALQVCGPRGFYFNKPTVYGVSSIRRAQTGIVDECCFRSCDLRLLEY 108
|||||
QY 61 CVRCKPTKSARSIRAOHRHTDMPKTK 86
| || |||||
DB 109 CAPLKPASARSVRAQRHTDMPKTK 134
|||||

RESULT 9
ID IGF1_CAPHI STANDARD; PRT; 154 AA.
AC P51457;
DT 01-OCT-1996 (Rel. 34, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A., AND TISSUE SPECIFICITY.
RC STRAIN-SHIBA; TISSUE=Liver;
RX MEDLINE=95290780; PubMed=7772848;
RA Mikawa S., Yoshikawa G.-I., Yamano Y., Sakai H., Komano T., Hosoi Y.,
RA Utsumi K.;
RT "Tissue- and development-specific expression of goat insulin-like
RT growth factor-I (IGF-I) mRNAs.;"
RL Biosci. Biotechnol. Biochem. 59:759-761(1995).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: Secreted.
CC -!- TISSUE SPECIFICITY: EXPRESSED IN ALL TISSUES EXAMINED: BRAIN,
CC LUNG, LIVER, SPLEEN, UTERUS, OVARY, TESTIS, HEART AND SKELETAL
CC MUSCLE.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
CC -----
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CC -----
DR EMBL; D26116; BAA05112.1; ALT_TERM.
DR EMBL; D26117; BAA05113.1; -;
DR EMBL; D26118; BAA05114.1; -;
DR EMBL; D26119; BAA05115.1; -;
DR EMBL; D11378; BAA01976.1; -;
DR HSP; P05019; IGF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.

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DR EMBL; X17492; CAA35527.1; -
DR EMBL; X52388; CAA36617.1; -
DR EMBL; X52077; CAA36296.1; -
DR EMBL; X31175; AAA31043.1; -
DR EMBL; X17638; CAA35632.1; -
DR PIR; A34938; A34938.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Signal.
F1 SIGNAL 1 ?
FT PROPEP ? 48
FT CHAIN 49 118
FT DOMAIN 49 77
FT DOMAIN 78 89
FT DOMAIN 90 110
FT DOMAIN 111 118
FT PROPEP 119 153
FT DISULFID 54 96
FT DISULFID 66 109
FT DISULFID 95 100
SQ SEQUENCE 153 AA; 17010 MW; 6098792DCDA0CD7D CRC64;

Query Match 69.8%; Score 418; DB 1; Length 153;
Best Local Similarity 89.5%; Pred. No. 9.7e-39;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 49 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 108
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 109 CAPLKPASARSYRAQRHTDMPKAK 134

RESULT 12
1_BOVIN
IGF1_BOVIN STANDARD; PRT; 154 AA.
AC P07455;
DT 01-APR-1988 (Rel. 07, Created)
DT 01-NOV-1991 (Rel. 20, Last sequence update)
DT 01-OCT-1996 (Rel. 34, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE OF 2-154 FROM N.A.
RX MEDLINE-90175014; PubMed-2308858;
RA Fotsis T., Murphy C., Gannon F.;
RT "Nucleotide sequence of the bovine insulin-like growth factor 1
RT (IGF-I) and its IGF-1A precursor."
RL Nucleic Acids Res. 18:676-676(1990).
RN [2]
RP SEQUENCE OF 50-119 FROM N.A.
RX MEDLINE-95172127; PubMed-7867698;
RA Schmidt A., Einspanier R., Amselgruber W., Sinowatz F., Schams D.;
RT "Expression of insulin-like growth factor 1 (IGF-1) in the bovine
RT oviduct during the oestrous cycle."
RL Exp. Clin. Endocrinol. 102:364-369(1994).
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RN RP SEQUENCE OF 50-119.
RX MEDLINE-86085881; PubMed-3941093;
RA Honegger A., Humbel R.E.;
RT "Insulin-like growth factors I and II in fetal and adult bovine
RT serum. Purification, primary structures, and immunological
RT cross-reactivities."
RL J. Biol. Chem. 261:569-575(1986).
RN [4]
RP SEQUENCE OF 50-119.
RX MEDLINE-88268820; PubMed-3390164;
RA Francis G.L., Upton F.M., Ballard F.J., McNeil K.A., Wallace J.C.;
RT "Insulin-like growth factors 1 and 2 in bovine colostrum. Sequences
RT and biological activities compared with those of a potent truncated
RT form."
RL Biochem. J. 251:95-103(1988).
CC !- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC !- SUBCELLULAR LOCATION: Secreted.
CC !- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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DR EMBL; X15726; CAA33746.1; -
DR EMBL; S76122; AADI4209.1; -
DR PIR; A25623; IGBOL.
DR PIR; S00465; S00465.
DR PIR; S12672; S12672.
DR HSSP; P05019; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
DR Insulin family; Growth factor; Plasma; Signal.
KW SIGNAL 1 ?
FT PROPEP ? 49
FT CHAIN 50 119
FT DOMAIN 50 78
FT DOMAIN 79 90
FT DOMAIN 91 111
FT DOMAIN 112 119
FT PROPEP 120 154
FT DISULFID 55 97
FT DISULFID 67 110
FT DISULFID 96 101
SQ SEQUENCE 154 AA; 17066 MW; 64201B6AF3140999 CRC64;

Query Match 69.8%; Score 418; DB 1; Length 154;
Best Local Similarity 89.5%; Pred. No. 9.7e-39;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 60
Db 50 GPTLCGAEVLVDALQVCGPRGYFNKPTVYGSIRRAPQTGIVDECCFRSCDLRLLEY 109
QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
Db 110 CAPLKPASARSYRAQRHTDMPKAK 135

RESULT 13
IGF1_SHEEP
ID IGF1_SHEEP STANDARD; PRT; 154 AA.
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AC P10763;
DT 01-JUL-1989 (Rel. 11, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
GN IGF1.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=90126234; PubMed=2575490;
RA Wong E.A., Ohlsen S.M., Godfredson J.A., Dean D.M., Wheaton J.E.;
RT "Cloning of ovine insulin-like growth factor-I cDNAs: heterogeneity
RT in the mRNA population.";
RL DNA 8:649-657(1989).
RN [2]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=91197361; PubMed=2015053;
RA Dickson M.C., Saunders J.C., Gilmour R.S.;
RT "The ovine insulin-like growth factor-I gene: characterization,
RT expression and identification of a putative promoter.";
RL J. Mol. Endocrinol. 6:17-31(1991).
RN [3]
RN SEQUENCE FROM N.A.
RN TISSUE=Liver;
RX MEDLINE=93221682; PubMed=8466647;
RA Ohlsen S.M., Dean D.M., Wong E.A.;
RT "Characterization of multiple transcription initiation sites of the
RT ovine insulin-like growth factor-I gene and expression profiles of
RT three alternatively spliced transcripts.";
RL DNA Cell Biol. 12:243-251(1993).
RN [4]
RN SEQUENCE OF 55-135 FROM N.A.
RC STRAIN=COOPWORTH; TISSUE=Liver;
RX MEDLINE=93250051; PubMed=8485157;
RA Demmer J., Hill D.F., Petersen G.B.;
RT "Characterization of two sheep insulin-like growth factor II cDNAs
RT with different 5'-untranslated regions.";
RL Biochim. Biophys. Acta 1173:79-80(1993).
RN [5]
RN SEQUENCE OF 50-119.
RX MEDLINE=89136887; PubMed=2537174;
RA Francis G.L., McNeil K.A., Wallace J.C., Ballard F.J., Owens P.C.;
RT "Sheep insulin-like growth factors I and II: sequences, activities
RT and assays.";
RL Endocrinology 124:1173-1183(1989).
RN [6]
RN SEQUENCE OF 50-79.
RX MEDLINE=89323215; PubMed=2752053;
RA Hey A.W., Browne C.A., Simpson R.J., Thorburn G.D.;
RT "Simultaneous isolation of insulin-like growth factors I and II from
RT adult sheep serum.";
RL Biochim. Biophys. Acta 997:27-35(1989).
CC -1- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- ALTERNATIVE PRODUCTS: 3 ISOFORMS; A, B (SHOWN HERE) AND C; ARE
CC PRODUCED BY ALTERNATIVE SPLICING.
CC -1- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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CC -----
DR EMBL; M30653; AAA80532.1; -
DR EMBL; M30653; AAA80533.1; -
DR EMBL; M31734; AAA80535.1; -
DR EMBL; M31734; AAA80534.1; -
DR EMBL; M31736; AAA31545.1; -
DR EMBL; M31735; AAA31546.1; -
DR EMBL; M31735; AAA31547.1; -
DR EMBL; M69472; CAA49230.1; -
DR EMBL; M69473; CAA49230.1; JOINED.
DR EMBL; M69474; CAA49230.1; JOINED.
DR EMBL; M69475; CAA49230.1; JOINED.
DR EMBL; M69472; CAA49231.1; -
DR EMBL; M69473; CAA49231.1; JOINED.
DR EMBL; M69474; CAA49231.1; JOINED.
DR EMBL; M69475; CAA49231.1; JOINED.
DR EMBL; M69473; CAA49232.1; -
DR EMBL; M69474; CAA49232.1; JOINED.
DR EMBL; M69475; CAA49232.1; JOINED.
DR EMBL; M89787; AAA31544.1; -
DR PIR; A33390; A33390.
DR PIR; B33390; B33390.
DR PIR; S07198; S07198.
DR HSP; S07965; S07965.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Signal; Alternative splicing.
FT SIGNAL 1 ?
FT PROPEP 49
FT CHAIN 50 119 INSULIN-LIKE GROWTH FACTOR I.
FT DOMAIN 50 78 B.
FT DOMAIN 79 90 C.
FT DOMAIN 91 111 A.
FT DOMAIN 112 119 D.
FT PROPEP 120 154 E. PEPTIDE.
FT DISULFID 55 97 BY SIMILARITY.
FT DISULFID 67 110 BY SIMILARITY.
FT DISULFID 96 101 BY SIMILARITY.
FT VARSPLIC 1 21 MGKISLPTQLFKCCFCDFLK -> MVTPPT (IN ISOFORM C).
FT VARSPLIC 1 34 MISSING (IN ISOFORM A).
FT CONFLICT 57 57 A -> V (IN REF. 4).
SQ SEQUENCE 154 AA; 17012 MW; E226CE6AF653CF3F CRC64;

Query Match 68.4%; Score 410; DB 1; Length 154;
Best Local Similarity 88.4%; Pred. No. 7 3e-38;
Matches 76; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

QY 1 GPETLCGAEVLDAQFVCGRGFYFNKPTVYSSIRAPQTGIVDECCFRCDLRRLMY 60
DB 50 GPETLCGAEVLDAQFVCGRGFYFNKPTVYSSIRAPQTGIVDECCFRCDLRRLMY 109

QY 61 CVRCRPTKSARSIRAOHRTDMPKTK 86
DB 110 CAPLKAARSARSVRAOHRHDMPKAK 135

RESULT 14
ID IGF1_COTJA STANDARD; PRT; 124 AA.
AC P51462;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Insulin-like growth factor I precursor (IGF-I) (Somatomedin).
DE (Fragment).
GN IGF1.

OS Coturnix coturnix japonica (Japanese quail).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Coturnix.
 OX NCBI_TaxID=93934;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95187621; PubMed=7891819;
 RA Kida S., Iwaki M., Nakamura A., Miura Y., Takenaka A., Takahashi S.,
 RA Noguchi T.;
 RT "Insulin-like growth factor-I messenger RNA content in the oviduct of
 RT Japanese quail (Coturnix coturnix japonica): changes during growth
 RT and development or after estrogen administration.";
 RL Comp. Biochem. Physiol. 109C:191-204(1994).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
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 CC -----
 CC EMBL; S75247; ; NOT_ANNOTATED_CDS.
 CC DR HSSP; P05019; IGF1.
 CC DR InterPro; IPR000739; Insulin_IGF_relaxin.
 CC DR Pfam; PF00049; Insulin; 1.
 CC DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 CC DR SMART; SM00078; IIGF; 1.
 CC DR PROSITE; PS00262; INSULIN; 1.
 CC KW Insulin family; Growth factor; Plasma.
 CC FT NON_TER 1 1
 CC FT PROPEP <1 19 POTENTIAL.
 CC FT CHAIN 20 89 INSULIN-LIKE GROWTH FACTOR I.
 CC FT DOMAIN 20 48 B.
 CC FT DOMAIN 49 60 C.
 CC FT DOMAIN 61 81 A.
 CC FT DOMAIN 82 89 D.
 CC FT PROPEP 90 124 E PEPTIDE.
 CC FT DISULFID 25 67 BY SIMILARITY.
 CC FT DISULFID 37 80 BY SIMILARITY.
 CC FT DISULFID 66 71 BY SIMILARITY.
 CC SEQUENCE 124 AA; 13888 MW; 52254EB1BA52C3B6 CRC64;
 Query Match 64.1%; Score 384; DB 1; Length 124;
 Best Local Similarity 70.8%; Pred. No. 3.9e-35;
 Matches 75; Conservative 6; Mismatches 17; Indels 8; Gaps 2;
 QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFSCDLRLREMY 60
 Db 20 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSIRRLHKGIVDECCFSCDLRLREMY 79
 QY 61 CVRCKPTKSARSIAQRHTDMPKTKSQPLSTHKRKLQRKRGST 106
 Db 80 CAPIKPKSARSVRAQRHTDMPKRAQK-----EVH-----LKNTSRGNT 117
 RESULT 15
 IGF1_CHICK
 ID IGF1_CHICK STANDARD; PRT; 153 AA.
 AC P18254;
 DT 01-NOV-1990 (Rel. 16, Created)
 DT 01-NOV-1990 (Rel. 16, Last sequence update)
 DT 01-OCT-1996 (Rel. 34, Last annotation update)
 DE Insulin-like growth factor I precursor (IGF-I) (somatomedin).
 GN IGF1.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OX NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90190648; PubMed=2628728;
 RA Kajimoto Y., Rotwein P.;
 RT "Structure and expression of a chicken insulin-like growth factor I
 RT precursor.";
 RL Mol. Endocrinol. 3:1907-1913(1989).
 RN [2]
 RP SEQUENCE OF 1-21 FROM N.A.
 RX MEDLINE=91236750; PubMed=2033062;
 RA Rotwein P., Kajimoto Y.;
 RT "Structure of the chicken insulin-like growth factor I gene reveals
 RT conserved promoter elements.";
 RL J. Biol. Chem. 266:9724-9731(1991).
 RN [3]
 RP SEQUENCE OF 49-118.
 RX MEDLINE=91106895; PubMed=2272467;
 RA Ballard F.J., Johnson R.J., Owens P.C., Francis G.L., Upton F.M.,
 RA McMurtry J.P., Wallace J.C.;
 RT "Chicken insulin-like growth factor-I: amino acid sequence,
 RT radioimmunoassay, and plasma levels between strains and during
 RT growth.";
 RL Gen. Comp. Endocrinol. 79:459-468(1990).
 CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
 CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
 CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
 CC -!- SUBCELLULAR LOCATION: Secreted.
 CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
 CC -----
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 CC -----
 CC EMBL; M32791; AAA48828.1; -.
 CC DR EMBL; M74176; AAA48829.1; -.
 CC DR PIR; A41399; A41399.
 CC DR HSSP; P05019; IGF1.
 CC DR InterPro; IPR000739; Insulin_IGF_relaxin.
 CC DR Pfam; PF00049; Insulin; 1.
 CC DR PRINTS; PR00276; INSULIN.
 CC DR PRINTS; PR00277; INSULIN.
 CC DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
 CC DR SMART; SM00078; IIGF; 1.
 CC DR PROSITE; PS00262; INSULIN; 1.
 CC KW Insulin family; Growth factor; Plasma; Signal.
 CC FT SIGNAL 1 ?
 CC FT PROPEP ? 48 INSULIN-LIKE GROWTH FACTOR I.
 CC FT CHAIN 49 118 B.
 CC FT DOMAIN 49 77 C.
 CC FT DOMAIN 78 89 A.
 CC FT DOMAIN 90 110 D.
 CC FT DOMAIN 111 118 E.
 CC FT PROPEP 119 153 E PEPTIDE.
 CC FT DISULFID 54 96 BY SIMILARITY.
 CC FT DISULFID 66 109 BY SIMILARITY.
 CC FT DISULFID 95 100 BY SIMILARITY.
 CC SEQUENCE 153 AA; 17267 MW; AAEL3FDEDI3EE2F8 CRC64;
 Query Match 64.1%; Score 384; DB 1; Length 153;
 Best Local Similarity 70.8%; Pred. No. 5e-35;
 Matches 75; Conservative 6; Mismatches 17; Indels 8; Gaps 2;
 QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFSCDLRLREMY 60
 Db 49 GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSIRRLHKGIVDECCFSCDLRLREMY 108

Search completed: October 25, 2002, 15:57:35
Job time : 7.68675 secs

GenCore version 5.1.3
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OM protein - protein search, using sw model
Run on: October 25, 2002, 15:53:12 ; Search time 20.7289 Seconds
(without alignments)
926.360 Million cell updates/sec

Title: US-09-852-261-4
Perfect score: 599
Sequence: 1 GPEITLGGAEVDALQFVCGP.....THKKRLQRRKGSFLBEHK 111

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

622222 seqs, 172994929 residues

Total number of hits satisfying chosen parameters: 562222

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

- SPTREMBL19.*
1: sp_archaea.*
2: sp_bacteria.*
3: sp_fungi.*
4: sp_human.*
5: sp_invertebrate.*
6: sp_mammal.*
7: sp_mhc.*
8: sp_organelle.*
9: sp_phage.*
10: sp_plant.*
11: sp_rodent.*
12: sp_virus.*
13: sp_vertebrate.*
14: sp_unclassified.*
15: sp_rvrius.*
16: sp_bacterioph.*
17: sp_archaeap.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	ID	Description
1	486.5	81.2	139	4 Q13429	Q13429 homo sapien
2	443	74.0	127	11 P97899	P97899 rattus sp.
3	423	70.6	130	4 Q9NP10	Q9NP10 homo sapien
4	423	70.6	137	4 Q14620	Q14620 homo sapien
5	418	69.8	133	6 P9NIC1	P9NIC1 bos taurus
6	402	67.1	139	6 P79167	P79167 equus caball
7	384	64.1	153	13 Q93380	Q93380 meleagris g
8	362.5	60.5	161	13 Q91230	Q91230 oncorhynch
9	362	60.4	117	13 Q91476	Q91476 salmo salar
10	362	60.4	178	13 Q9IB10	Q9IB10 cyprinus ca
11	361	60.3	145	13 Q91475	Q91475 salmo salar
12	361	60.3	155	13 Q91162	Q91162 oncorhynch
13	361	60.3	188	13 Q91965	Q91965 oncorhynch
14	361	60.3	188	13 P81268	P81268 oncorhynch
15	360	60.1	116	13 Q91161	Q91161 oncorhynch
16	360	60.1	149	13 Q91231	Q91231 oncorhynch

17	359	59.9	161	13 Q90VV9	Q90VV9 brachydanio
18	355	58.3	186	13 Q93527	Q93527 paralichthy
19	351.5	58.7	185	13 Q57436	Q57436 paralichthy
20	351	58.6	117	13 Q91914	Q91914 ctenopharyn
21	351	58.6	159	13 Q93607	Q93607 paralichthy
22	348	58.1	161	13 Q98SR6	Q98SR6 megalobrama
23	347	57.9	161	13 Q9PWK2	Q9PWK2 carassius a
24	347	57.9	186	13 Q9PSX5	Q9PSX5 paralichthy
25	345	57.6	182	13 Q42289	Q42289 oreochromis
26	344	57.4	161	13 Q9YI82	Q9YI82 carassius a
27	344	57.4	182	13 Q79824	Q79824 oreochromis
28	344	57.4	182	13 Q73720	Q73720 oreochromis
29	332.5	55.5	185	13 Q9YI57	Q9YI57 acanthopagr
30	326	54.4	184	13 Q42336	Q42336 myoxocephal
31	325.5	54.3	69	6 O02807	O02807 bubalus bub
32	310	51.8	66	6 Q9NIS6	Q9NIS6 capreolus c
33	279.5	46.7	126	13 Q91442	Q91442 squalus aca
34	267	44.6	57	6 Q28236	Q28236 cervus elap
35	255.5	42.7	215	13 Q42429	Q42429 lates calca
36	255.5	42.7	215	13 Q73721	Q73721 tilapia sp.
37	252	42.1	62	13 Q9IAA0	Q9IAA0 carassius a
38	240	40.1	207	13 Q90XDO	Q90XDO cyprinus ca
39	238	39.7	217	13 Q90WW4	Q90WW4 xenopus lae
40	228	38.1	149	6 Q9MYX4	Q9MYX4 bos indicus
41	226	37.7	197	13 Q9PUD0	Q9PUD0 brachydanio
42	225.5	37.6	187	13 Q57687	Q57687 taenopygia
43	224	37.4	187	13 Q79890	Q79890 gallus gall
44	217	36.2	106	6 Q9MYZ6	Q9MYZ6 trichosurus
45	213.5	35.6	154	11 Q63265	Q63265 rattus norv

ALIGNMENTS

RESULT 1

Q13429 PRELIMINARY; PRT; 139 AA.
ID Q13429
AC Q13429; (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-DEC-2001 (TREMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I (FRAGMENT).
GN IGF-I
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=95237119; PubMed=7720641;
RA Chew S.L., Lavender P., Clark A.J., Ross R.J.;
RT "An alternatively spliced human insulin-like growth factor-I
RT transcript with hepatic tissue expression that diverts away from the
RT mitogenic IGF-I peptide."
RL Endocrinology 136:1939-1944 (1995).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U40870; AAA96152.1; -!
DR HSP; P01343; 1GF1.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT NON_TER
SQ SEQUENCE 139 AA; 15611 MW; A62271872CA29DE4 CRC64;

Query Match 81.2%; Score 486.5; DB 4; Length 139;

Best Local Similarity 84.7%; Pred. No. 3.7e-51;

Matches 94; Conservative 2; Mismatches 14; Indels 1; Gaps 1;

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QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 60
|||||
DB 30 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 89
|||||
QY 61 CVRCKPTKSARSIRAORHTDMPKTKQSPQLSTHKRLQRRKRGSTLEERK 111
|||||
DB 90 CAPLPAKSARSVRAORHTDMPKTKQYQPPSTNKNKTSQ-RRKGSTFEERK 139
|||||

RESULT 2
P97899 ID P97899 PRELIMINARY; PRT; 127 AA.
AC P97899;
DT 01-MAY-1997 (Tremblrel. 03, Created)
DT 01-MAY-1997 (Tremblrel. 03, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.
OS Rattus sp.
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=101118;
RN [1]
PARTIAL SEQUENCE FROM N.A.
RX MEDLINE=87222423; PubMed=3034909;
RA Shimatsu A., Rotwein P.;
RT "Mosaic evolution of the insulin-like growth factors.";
RL J. Biol. Chem. 262:7894-7900(1987).
RN [2]
SEQUENCE FROM N.A.
RX MEDLINE=91103966; PubMed=1368571;
RA Kato H., Okoshi A., Miura Y., Noguchi T.;
RT "A new cDNA clone relating to larger molecular species of rat insulin-
like growth factor-I mRNA.";
RL Agric. Biol. Chem. 54:1599-1601(1990).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
DR EMBL; D00698; BAA00604.1; -
DR HSSP; P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
FT CHAIN 23 92
SQ SEQUENCE 127 AA; 14106 MW; 104E126BFCFAC5CB7 CRC64;

Query Match 74.0%; Score 443; DB 11; Length 127;
Best Local Similarity 95.3%; Pred. No. 6.1e-46;
Matches 82; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 60
|||||
DB 23 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 82
|||||
QY 61 CVRCKPTKSARSIRAORHTDMPKTKQ 86
|||||
DB 83 CAPLPAKSARSIRAORHTDMPKTKQ 108
|||||

RESULT 3
Q9NP10 ID Q9NP10 PRELIMINARY; PRT; 130 AA.
AC Q9NP10;
DT 01-OCT-2000 (Tremblrel. 15, Created)
DT 01-OCT-2000 (Tremblrel. 15, Last sequence update)
DE 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE IGFI PROTEIN PRECURSOR.
GN IGFI.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
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OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
SEQUENCE FROM N.A.
RX MEDLINE=88065102; PubMed=3683205;
RA Rall L.B., Scott J., Bell G.I.;
RT "Human insulin-like growth factor I and II messenger RNA: isolation of
complementary DNA and analysis of expression.";
RL Meth. Enzymol. 146:239-248(1987).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M29644; AAA52543.1; -
DR HSSP; P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL 1 25
FT CHAIN 26 95
SQ SEQUENCE 130 AA; 14406 MW; 970FBAECFA0352D CRC64;

Query Match 70.6%; Score 423; DB 4; Length 130;
Best Local Similarity 90.7%; Pred. No. 1.7e-43;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 60
|||||
DB 26 GPTLCGAELVDALQFVCGPRGFYFNKPTVYSSIRRAPOTGIVDECCFRSCDLRLRLMY 85
|||||
QY 61 CVRCKPTKSARSIRAORHTDMPKTKQ 86
|||||
DB 86 CAPLPAKSARSIRAORHTDMPKTKQ 111
|||||

RESULT 4
Q14620 ID Q14620 PRELIMINARY; PRT; 137 AA.
AC Q14620;
DT 01-NOV-1996 (Tremblrel. 01, Created)
DT 01-NOV-1996 (Tremblrel. 01, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR.
GN IGFI.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
SEQUENCE FROM N.A.
RX MEDLINE=91187000; PubMed=2082190;
RA Tobin G., Yee D., Brunner N., Rotwein P.;
RT "A novel human insulin-like growth factor I messenger RNA is expressed
in normal and tumor cells.";
RL Mol. Endocrinol. 4:1914-1920(1990).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M37484; AAA52789.1; -
DR HSSP; P01343; IGFI.
DR InterPro: IPR000739; Insulin_IGF_relaxin.
DR Pfam: PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT SIGNAL 1 32
FT CHAIN 33 137
SQ SEQUENCE 137 AA; 15177 MW; BFCC0D11E32AB75D CRC64;
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Query Match          70.6%; Score 423; DB 4; Length 137;
Best Local Similarity 90.7%; Pred. No. 1.8e-43;
Matches 78; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

QY 1 GPETLCGAEVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 33 GPETLCGAEVDALQFVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 92
    |||||

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
    |||||
Db 93 CAPLPAKSARSVRAQRHTDMPKTK 118
    |||||

RESULT 5
Q9N1C1 PRELIMINARY; PRT; 133 AA.
AC Q9N1C1;
01-OCT-2000 (Tremblrel. 15, Created)
01-DEC-2000 (Tremblrel. 15, Last sequence update)
01-DEC-2001 (Tremblrel. 19, Last annotation update)
INSULIN-LIKE GROWTH FACTOR I (FRAGMENT).
GN IGFI.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RA Llien S., Karlens A., Klemetsdal G., Vage D.I., Olsaker I.,
RA Klungland H., Aasland M., Heringsstad B., Ruane J., Gomez-Raya L.;
RT "A primary screen of the bovine genome for quantitative trait loci
RT affecting twinning rate.";
RL Submitted (Dec-1999) to the EMBL/GenBank/DBJ databases.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF210387; AAF72409.1; -.
DR EMBL; AF210385; AAF72409.1; JOINED.
DR EMBL; AF210386; AAF72409.1; JOINED.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR PRINTS; PR00277; INSULIN.
DR PRODOM; PD001048; Insulin_IGF_relaxin.
DR SMART; SM00078; ILGF.1.
DR PROSITE; PS00262; INSULIN; 1.
DR NON_TER 1.
SEQUENCE 133 AA; 14674 MW; A6991DBC875C103B CRC64;

Query Match          69.8%; Score 418; DB 6; Length 133;
Best Local Similarity 89.5%; Pred. No. 6.9e-43;
Matches 77; Conservative 1; Mismatches 8; Indels 0; Gaps 0;

QY 1 GPETLCGAEVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 29 GPETLCGAEVDALQFVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 88
    |||||

QY 61 CVRCKPTKSARSIRAQRHTDMPKTK 86
    |||||
Db 89 CAPLPAKSARSVRAQRHTDMPKTK 114
    |||||

RESULT 6
P79167 PRELIMINARY; PRT; 139 AA.
AC P79167;
01-MAY-1997 (Tremblrel. 03, Created)
01-OCT-2000 (Tremblrel. 15, Last sequence update)
01-DEC-2001 (Tremblrel. 19, Last annotation update)
INSULIN-LIKE GROWTH FACTOR IB PRECURSOR (IGF-IB) (SOMATOMEDIN C)
DE (FRAGMENTS).
GN IGFI.
OS Equus caballus (Horse).

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OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RA SEQUENCE OF 1-122 FROM N.A.
RP TISSUE=LIVER;
RX MEDLINE=97013467; PubMed=8860303;
RA Otte K., Kozell B., Gessbo A., Engstrom W.;
RT "Cloning and sequencing of an equine insulin-like growth factor I cDNA
RT and its expression in fetal and adult tissues.";
RL Gen. Comp. Endocrinol. 102:11-15(1996).
RN [2]
RP SEQUENCE OF 123-139 FROM N.A.
RA Nixon A.J., Toland B.D., Sandell L.J.;
RL Submitted (JAN-1997) to the EMBL/GenBank/DBJ databases.
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- ALTERNATIVE PRODUCTS: TWO ISOFORMS; ISOFORM IGF-IA (P51458) AND
CC ISOFORM IGF-IB (SHOWN HERE); ARE PRODUCED BY ALTERNATIVE SPLICING
CC (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U28070; AAA68952.1; -.
DR EMBL; U85271; AAB47484.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR PRODOM; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; ILGF.1.
DR PROSITE; PS00262; INSULIN; UNKNOWN_1.
KW Insulin family; Growth factor; Signal.
FT SIGNAL 1 ?
FT PROPEP 48 BY SIMILARITY.
FT CHAIN 49 118 INSULIN-LIKE GROWTH FACTOR IB.
FT DOMAIN 49 77 B.
FT DOMAIN 78 89 C.
FT DOMAIN 90 110 A.
FT DOMAIN 111 118 D.
FT PROPEP 119 >139 E PEPTIDE.
FT NON_CONS 122 123
FT DISULFID 54 96 BY SIMILARITY.
FT DISULFID 66 109 BY SIMILARITY.
FT DISULFID 95 100 BY SIMILARITY.
FT NON_TER 139 139
SQ SEQUENCE 139 AA; 15612 MW; CDC0E8F19C261A2C CRC64;

Query Match          67.1%; Score 402; DB 6; Length 139;
Best Local Similarity 76.7%; Pred. No. 6.2e-41;
Matches 79; Conservative 2; Mismatches 10; Indels 12; Gaps 1;

QY 1 GPETLCGAEVDALQFVCGPRGFYFNKPTVYGGSSIRRAPQTGIVDECCFRSCDLRRLEMY 60
    |||||
Db 49 GPETLCGAEVDALQFVCGDRGFYFNKPTVYGGSSRRAPQTGIVDECCFRSCDLRRLEMY 108
    |||||

QY 61 CVRCKPTKSARSIRAQRHTDMPKTKSQPLSTHKKRKLQRRK 103
    |||||
Db 109 CAPLPAKSARSVR-----YQPPSTNKKTKLQRRRK 139
    |||||

RESULT 7
O93380 PRELIMINARY; PRT; 153 AA.
ID O93380
AC O93380;
DT 01-NOV-1998 (Tremblrel. 08, Created)
DT 01-NOV-1998 (Tremblrel. 08, Last sequence update)
DT 01-DEC-2001 (Tremblrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I PRECURSOR.
GN IGFI.
OS Meleagris gallopavo (Common turkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
DB 19 GPETLCGAELVDLQFVCGGRGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLRLEY 78
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 79 CAPVKSGAARSVRAQRHTDMPRTPKVSTAVQNVDRGTERR 119

RESULT 13
QY1965 PRELIMINARY; PRT; 188 AA.
AC Q91965;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR-I.
GN Oncorhynchus tshawytscha (Chinook salmon).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=74940;
[1]
SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC MEDLINE=93247592; PubMed=7683374;
RX Wallis A.E., Devlin R.H.;
RA "Duplicate insulin-like growth factor-I genes in salmon display
RT alternative splicing pathways.";
RL Mol. Endocrinol. 7:409-422(1993).
[2]
SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC Devlin R.H.;
RL Submitted (OCT-1994) to the EMBL/GenBank/DBJ databases.
[3]
SEQUENCE FROM N.A.
RP TISSUE=LIVER;
RC Devlin R.H.;
RA Submitted (SEP-1994) to the EMBL/GenBank/DBJ databases.
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; U15960; AA67266.1; -.
DR EMBL; U14536; AA67263.1; -.
DR HSSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulina.
DR PRINTS; PR00276; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
SQ SEQUENCE 188 AA; 20782 MW; F4D705BA811024B8 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 188;
Best Local Similarity 67.3%; Pred. No. 8e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
DB 45 GPETLCGAELVDLQFVCGGRGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLRLEY 104
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 105 CAPVKSGAARSVRAQRHTDMPRTPKVSTAVQNVDRGTERR 145

RESULT 14
P81268 PRELIMINARY; PRT; 188 AA.
AC P81268;
DT 01-AUG-1998 (TReMBLrel. 07, Created)
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DT 01-AUG-1998 (TReMBLrel. 07, Last sequence update)
DT 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I.1 PRECURSOR (IGF-I.1) (SOMATOMEDIN).
GN IGF-I.1.
OS Oncorhynchus keta (Chum salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=8018;
[1]
SEQUENCE FROM N.A.
RP MEDLINE=94296559; PubMed=8024699;
RX Kavan V.M., Grebenjuk V.A., Koval A.P., Skorokhod A.S.,
RA Roberts C.T. Jr., Leroith D.;
RT "Isolation of a second nonallelic insulin-like growth factor I gene
RL from the salmon genome";
DNA Cell Biol. 13:555-559(1994).
CC -!- FUNCTION: THE INSULIN-LIKE GROWTH FACTORS, ISOLATED FROM PLASMA,
CC ARE STRUCTURALLY AND FUNCTIONALLY RELATED TO INSULIN BUT HAVE A
CC MUCH HIGHER GROWTH-PROMOTING ACTIVITY.
CC -!- SUBCELLULAR LOCATION: SECRETED.
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; AF063216; AAC18833.1; -.
DR HSSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulina.
DR PRINTS; PR00276; INSULIN.
DR PRINTS; PR00277; INSULIN.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Insulin family; Growth factor; Plasma; Multigene family; Signal.
FT SIGNAL 1 ?
FT PROPEP 2 44 BY SIMILARITY.
FT CHAIN 45 114 INSULIN-LIKE GROWTH FACTOR I.1.
FT DOMAIN 45 73 B.
FT DOMAIN 74 85 C.
FT DOMAIN 86 106 A.
FT DOMAIN 107 114 D.
FT PROPEP 115 188 E PEPTIDE.
FT DISULFID 50 92 BY SIMILARITY.
FT DISULFID 62 105 BY SIMILARITY.
FT DISULFID 91 96 BY SIMILARITY.
SQ SEQUENCE 188 AA; 20792 MW; F4CEB6D05E0F24B8 CRC64;

Query Match 60.3%; Score 361; DB 13; Length 188;
Best Local Similarity 67.3%; Pred. No. 8e-36;
Matches 68; Conservative 9; Mismatches 24; Indels 0; Gaps 0;

QY 1 GPETLCGAELVDALQFVCGPRGFYFNKPTVYGSIRRAPOTGIVDECCFRSCDLRLRLEY 60
DB 45 GPETLCGAELVDLQFVCGGRGFYFSKPTGYGSSRRSHNRGIVDECCFQSCELRLRLEY 104
QY 61 CVRCKPTKSARSIRAQRHTDMPKTSQPLSTHKKRKLQRR 101
DB 105 CAPVKSGAARSVRAQRHTDMPRTPKISTAVQNVDRGTERR 145

RESULT 15
QY1161 PRELIMINARY; PRT; 116 AA.
AC QY1161;
DT 01-NOV-1996 (TReMBLrel. 01, Created)
DT 01-NOV-1996 (TReMBLrel. 01, Last sequence update)
DE 01-DEC-2001 (TReMBLrel. 19, Last annotation update)
DE INSULIN-LIKE GROWTH FACTOR I PRECURSOR (FRAGMENT).
OS Oncorhynchus kisutch (Coho salmon).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei;
OC Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.
NCBI_TaxID=8019;
[1]
SEQUENCE FROM N.A.
RP
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RC TISSUE=LIVER;
RX MEDLINE=90190659; PubMed=2628735;
RA Cao Q.P, Duguay S.J, Plisetskaya E., Steiner D.F., Chan S.J.;
RT "Nucleotide sequence and growth hormone regulated expression of salmon
RL insulin-like growth factor I mRNA";
RL Mol. Endocrinol. 3:2005-2010(1989).
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=LIVER;
RX MEDLINE=93024477; PubMed=1406698;
RA Duguay S.J, Park L.K., Samadpour M., Dickhoff W.W.;
RT "Nucleotide sequence and tissue distribution of three insulin-like
RL growth factor I prohormones in salmon";
RL Mol. Endocrinol. 6:1202-1210(1992).
CC -!- SUBCELLULAR LOCATION: SECRETED (BY SIMILARITY).
CC -!- SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
DR EMBL; M81911; AAB59947.1; -.
DR HSP; P01343; IGFI.
DR InterPro; IPR000739; Insulin_IGF_relaxin.
DR Pfam; PF00049; Insulin; 1.
DR PRINTS; PR00276; INSULINA.
DR PRINTS; PR00277; INSULINB.
DR ProDom; PD001048; Insulin_IGF_relaxin; 1.
DR SMART; SM00078; IIGF; 1.
DR PROSITE; PS00262; INSULIN; 1.
KW Signal.
FT NON_TER 1 1
FT SIGNAL <1 18 POTENTIAL.
FT CHAIN 19 >88 INSULIN-LIKE GROWTH FACTOR I.
FT NON_TER 116 116
SQ SEQUENCE 116 AA; 12697 MW; C5F378915179D89D CRC64;

Query Match 60.1%; Score 360; DB 13; Length 116;
Best Local Similarity 65.1%; Pred. No. 6.3e-36;
Matches 69; Conservative 10; Mismatches 19; Indels 8; Gaps 2;

QY 1 GPETLGAELVDALQVCGPRGFYFNKPTVYGSSTIRAPQTGIVDECCFSCDLRELMY 60
Db 19 GPETLGAELVDTLQFVCGERGFGYFSKPTGYGFPSSRRSHNRGIVDECCFSCDLRELMY 78

QY 61 CVRCKPTKSARSIRQRHTDMPKTSQPLSTHKRKLQRRRGST 106
Db 79 CAPVKSGLAARSVRQRHTDMPRT----PKEVHQKNS-----SEGNT 116

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time : 20.7289 secs

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